AN ANALYSIS OF THE DEVELOPMENT AND THE IMPORTANCE OF OIL AND GAS RESOURCES IN RUSSIA AND THEIR RELATIONSHIP TO THE RUSSIAN ECONOMIC GROWTH AND FOREIGN POLICY

A Ph.D Dissertation

by
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September 2008

To my family

AN ANALYSIS OF THE DEVELOPMENT AND THE IMPORTANCE OF OIL AND GAS RESOURCES IN RUSSIA AND THEIR RELATIONSHIP TO THE RUSSIAN ECONOMIC GROWTH AND FOREIGN POLICY

The Institute of Economics and Social Sciences
of
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by

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In Partial Fulfilment of the Requirements for the Degree of
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in

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ABSTRACT

AN ANALYSIS OF THE DEVELOPMENT AND THE IMPORTANCE OF OIL AND GAS RESOURCES IN RUSSIA AND THEIR RELATIONSHIP TO THE RUSSIAN ECONOMIC GROWTH AND FOREIGN POLICY

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September 2008

This dissertation analyzes the development of the oil and gas sector in Russia with a view to understand the role of these assets on the formation of Russian state interests and consequent policy prioritization, both at the domestic and the international level. The study identifies economic and political issues on which the influence of the oil and gas resources has been significant.

The dissertation elucidates the various links between Russian economic development and revenues from the oil and gas sector, and well as explicit and implicit connections between Russian foreign policy and the oil and gas sector. In the changing world order, strategic manipulation, communication, persuasion and economic incentives became as important as military might or an outright threat in order to shape the outcome of international issues.

Following the collapse of the Soviet Union, oil and gas diplomacy, pipeline politics, subsidised energy deliveries, threats to cut-off energy deliveries coloured Russian attempts to revitalize influence throughout the territory of the former Soviet

Union. Russia today is wedged between net consumers of energy which are competing to secure best terms for their oil and gas deliveries. As the Russian military capabilities fell after 1991, the policy around these vital resources has become the primary drivers of Russian domestic and foreign agenda.

Another aim of this analysis is to contribute to the study of international relations by emphasizing its analysis of a state's domestic agenda's effect on the international arena. Domestic factors have a crucial relevance to relationships shared by actors at the international level. This dissertation will use Russia's development of the oil and gas sector as a case for evaluating and understanding the relationship between domestic and international issues.

Keywords: Russia, oil, gas, energy policy, energy security, Russian economy, oligarchs, Yeltsin, Putin,

ÖZET

RUSYA'DA PETROL VE GAZ KAYNAKLARININ GELİŞİMİ, ÖNEMİ VE BU KAYNAKLARIN RUS DIŞ POLİTİKASI VE EKONOMİK BÜYÜMESİ İLE İLİŞKİSİNİN BİR ANALİZİ

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Bu tez, Rusya'daki petrol ve gaz sektörü gelişimini, Rus Devleti çıkarlarının ve politika önceliklerinin oluşumu ile ilgili bu değerlerin rolünü anlamak amacıyla hem ulusal hem de uluslararası seviyede incelemektedir. Tez, petrol ve gaz kaynaklarının etkisinin önemli olduğu ekonomik ve siyasi konuları belirlemektedir.

Tez, Rusya'nın ekonomik gelişimi ile petrol ve gaz sektöründen elde edilen gelirler arasında ve aynı zamanda Rus dış politikası ve petrol ve gaz sektörü arasında açık ve kapalı çeşitli bağlantıları izah etmektedir. Değişen dünya düzeninde, stratejik manipülasyon, iletişim, ikna ve ekonomik tedbirler, uluslararası hususların sonuçlarını biçimlendirme hususunda askeri güç veya direkt tehlikeler kadar önemlidir.

Sovyetler Birliği'nin çöküşünün ardından, petrol ve gaz diplomasisi, boru hattı politikası, sübvansiyonlu enerji teslimleri, enerji teslimlerinin kesilmesi tehlikeleri, eski Sovyetler Birliği bölgesi genelinde Rus etkisini canlandırmaya yönelik girişimleri renklendirmiştir. Rusya bugün, petrol ve gazlarını en iyi koşullarda güvenceye almak için rekabet eden net enerji tüketicileri arasında sıkışıp kalmıştır. Rusya'nın 1991 yılında

askeri kabiliyetlerinin azalmasından sonra, bu önemli kaynaklar etrafındaki politika Rusya'nın dahili ve harici gündeminin birincil etmeni olmuştur

Bu çalışmanın diğer bir amacı, bir devletin ülke içi gündeminin uluslararası arenadaki etkisinin analizini vurgulayarak uluslararası ilişkilerin araştırmalarına katkıda bulunmaktır. Ülke içi faktörlerin, uluslararası düzeydeki oyuncuların paylaştığı ilişkiler hususunda can alıcı bir bağlantısı vardır. Bu tez Rusya'nın petrol ve gaz sektöründeki gelişiminde ulusal ve uluslararası ilişkileri değerlendirmek ve anlamak için kullanılacaktır.

Anahtar Kelimeler: Rusya, petrol, gaz, enerji politikasi, Rus ekonomisi, oligarşi, Yeltsin, Putin

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It has been a tough and long journey that required hard-work, discipline and sacrifice. I am delighted to reach this point where I can express my gratitude to those who have been helpful and can claim a share in the victory.

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CHAPTER 1

INTRODUCTION:
METHODOLOGY, THEORY AND THE ANALYTICAL FRAMEWORK

1.1. Subject and Scope

The purpose of this dissertation is to analyze the development of the oil and gas sector in Russia with a view to understand the role of these assets on the formation of Russian state interests and consequent policy prioritization, both at the domestic and the international level. The study will identify economic and political issues on which the influence of the oil and gas resources has been significant. In order to achieve this aim, the dissertation also provides a detailed account on the historical development of the oil and gas industry.

While describing the development of Russia's oil and gas industry through out a certain period, the assessment of the hydrocarbon industry in Russia will be conducted

under the rubric of a broader analytical framework. In this respect the dissertation elucidates the various links between Russian economic development and revenues from the oil and gas sector, and well as explicit and implicit connections between Russian foreign policy and the oil and gas sector.

The economy and resource base of a state is an important variable in formulation of foreign policy. The link between foreign policy and economic performance operates in two directions. A lively economy, strong resource potential and robust growth can encourage the decision-makers to embark upon ventures that they otherwise might refrain from taking in fear of insufficient resources. Similarly, economic opportunities which may generate more revenues for the state and stimulates policy makers to pursue more assertive courses of action. On the other hand, a strong downfall in economic performance might induce decision- makers to opt for more moderate courses of action.

Accordingly, the revenues from oil and gas exports have a direct correlation with the Russian economic well-being and its consequent international posture. The dissertation argues that a combination of ample oil and gas production rates, high energy prices and strong revenue flow emboldens Russia in its international engagements. The argument is supported with examples of assertive Russian foreign policy actions during such periods. Also, the study provides examples of how low price-low production rate combination influences Russian economic and political arena. In this respect, the study also explores some scenarios regarding future course of economic and political development for the Russian Federation in view of the current trends in the energy field.

Particularly, in the aftermath of the Soviet collapse the account of state power gradually started to include the economy, culture and the capability to influence the course of events. In the changing world order, the soft power of states began to matter as much as hard power. In order to shape the outcome of international issues, strategic manipulation, communication, persuasion and economic incentives became as important as military might or an outright threat. The liberalization of national economies increased the number of actors and international organizations. The vested interests of these actors in multiple countries establish strong international links, bridges and avenues for communication and influence. More important is the fact that the international world order after the Cold War is more conducive to the efficacy of these means (Nye, 2005).

In this respect, Stulberg (2007) provides another analytical basis for this dissertation with his analysis of decision-making in the context of using national resources as leverage. Stulberg argues that the attention to risk in decision-making allowed the framework to go beyond rational utility-maximization and an initiator's market power in a specific energy sector and operation within a clearly-delineated regulatory system at home enables the actor to shape another country's decision-making, such that compliance with the intended policy provides more favorable prospects than non-compliance.

This study demonstrates how states can and have used oil and gas policies to gain influence and to justify non-military intervention on vital national security issues. Russia's vast resources and its advantageous ownership of the Soviet supply and

distribution networks offers powerful leverage for influence. Russia utilises its energy policy to create economic growth and extend political influence. Supply interruptions, threats of supply interruptions, pricing policy, usage of existing debts, creating dependencies via accumulation of debts, hostile take-overs of companies and infrastructure has been ways of employing energy lever for the Russian foreign policy. This, however, does not imply that Russia is not a reliable supplier or makes arbitrary use of its energy assets. On the contrary, Russia has been a reliable energy supplier to its clients even at the height of Cold War years.

Preferential price schemes and subsidised deliveries were common strategies for managing political control, mitigating instability and maintaining the cohesion of the Soviet bloc during the Cold War. Following the collapse of the Soviet Union, oil and gas diplomacy, pipeline politics, subsidised deliveries, threats to cut-off deliveries coloured Russian attempts to revitalize influence throughout the territory of the former Soviet Union. Russia today is wedged between net consumers of energy which are competing to secure best terms for their oil and gas deliveries. As the Russian military capabilities fell after 1991, the policy around these vital resources has become the primary drivers of Russian domestic and foreign agenda.

Moreover, the political profile of energy security has heightened during the last decade. Russia is also aware of this situation and pays particular importance to promote economic growth and to extend Russia's international influence by being a reliable supplier. Russia also has grown ambitions to substitute oil and gas exports with industrial exports to extend its economic reach for political reasons. The sales of arms

from Russia have shown notable increase and provide Russia an independent policy course. However, arms exports contribute as only a fraction of the revenues from oil and gas.

Another aim of this analysis is to contribute to the study of international relations by emphasizing its analysis of a state's domestic agenda's effect on the international arena. Domestic factors have a crucial relevance to relationships shared by actors at the international level. Specifically, by addressing the state-society relationship, this study will strengthen the understanding of state-state relationships (Halliday, 1994).

This dissertation will use Russia's development of the oil and gas sector as a case for evaluating and understanding the relationship between domestic and international issues. Historically, development of the oil and gas sector gave leaders the necessary economic clout to run the Soviet Union and currently these resources heavily influence Russia's policy priorities.

The study consists of four chapters. Each chapter relates to a certain period of time during which the oil and gas sector was transformed into a different regulatory and operational structure. The development of oil and gas sector went through different stages since its beginnings under the Russian Empire. The study follows the issue from the Russian Empire until the recent presidency of Vladimir Putin. Political and economic consequences are discussed as they pertain to the relevant time periods. The study will also present an assessment of important aspects of the recent presidency of Vladimir Putin in terms of their political and economic impact on the progress of Russian policy.

The first chapter starts by delineating the beginnings of the oil sector in the Russian Empire, the emergence of Baku as a global oil terminal and the Soviet takeover of the industry. Baku marks the first major milestone in familiarisation of the Russian state with the nature and extent of the oil industry and trade. It was during this time period that the Baku oil fields increased in prominence both as an internal asset to Russia and on a more global scale. Congruence of important factors such as adequate technology, shallow oil fields and sufficient capital turned Baku and gradually Caucasus into leading oil production centres. However, for the Russian Empire, oil trade was never as important as the revenues from the export of grain or timber. It was because around the early 20th century the applications of oil as source of energy were limited. Therefore, the first chapter, although integral to the rest of the thesis, only partly utilises the analytical framework established.

Under the beginnings of the Soviet regime, collectivisation and industrialisation were the two major episodes which changed the role of oil for the Russian state irreversably. Collectivisation destroyed the Russian agriculture that consequently left the Soviet Russia a major importer of grain for the rest of the century. The loss of revenue from the export of grain had to be compensated and oil became a crucial mender. Industrialisation drive of the 1940s and 1950s would not have been possible without the abundant presence of these sources.

The first chapter spans the timeframe from the oil industry's beginnings to the Second World War and discusses the discovery, development, transportation, refinement, and global market trade during that period. The role of foreign expertise and

capital in this boom is examined. Further, it explains the nationalization and restructuring of the industry after the Bolshevik revolution, as well as the difficulties experienced during the Second World War.

Chapter two provides the details of the development of the oil and gas sector in the Soviet Union that contributes to the analytical framework by analyzing the intensive use of hydrocarbon policy by the Soviet Union as a means to support both the domestic economy and impact the international engagements. The chapter further explains the Soviet Union's determination to unite the Soviet sphere of influence via its use of oil and gas resources. In this regard, the rigid Soviet planning system and its impact on the development of the oil and gas industry is elaborated. The beginnings of gas industry in the Soviet Union came as a reaction to an impending oil production crisis.

The chapter argues that without the effective use of its oil and gas assets, the Soviet Union would have collapsed much earlier. The oil and gas resources provided the Soviets with the necessary economic clout to keep the wasteful economic system going. The second chapter also accounts for the oil crises of the 1970s, as well as the Soviet Union's response to them. The oil price hikes played a crucial role in helping the Soviet leaders to make fresh starts in international policies. The Soviet invasion of Afghanistan would not have been thinkable without the robust revenue and production growth of the 1970s. However, an oil production crisis in the mid 1980s and the US' deliberate policy of weaknening the international oil prices precipitated the collapse of the Soviet Union. The chapter examines these aspects and ends with the fall of the Soviet Union.

The third chapter explores the transition of the oil and gas sector into a market economy following the collapse of the Soviet Union and takes account of the effects of this imperfect transition on the sector. The chapter further analyses the lack of adequate institutional structures and an efficient regulatory framework which led to the emergence of a hybrid form of semi-market economy in Russia. Compromise with the established political power centers, corruption, and criminalization were the endemic features of the Russian form of market economy. Insufficient capitalization, permanent money flight and a weak financial system grossly undermined the operations of the oil and gas sector and had a ruinous impact on the Russian oil production levels. In this respect, the chapter also exemplifies what happens to the Russian political and economic scene during times of oil production crises exacerbated with the weak international oil prices.

The third chapter also discusses the privatization of the oil and gas sector. In this context, financial industrial groups, widely known as oligarchs, rose; a development that significantly influenced the Russian Federation's course of political development. Ultimately, this chapter analyzes the actions of the Russian state during a turbulent period of transition as a case study of how the foreign policy of the Russian state evolved during a period of domestic disorder and weak international energy prices.

The fourth chapter discusses the changes that have taken place in the oil and gas sector since Vladimir Putin assumed power in 2000. The chapter considers the effect of Putin's vision for the Russian Federation and the reflection of this vision on the development of the Russian oil and gas sector. The chapter analyses Putin's pursuit of power to create stronger state apparatus and explains Putin's belief that the natural

resource base guarantees Russia's international position and ensures macroeconomic growth. Putin's views on diversifying the industrial basis of the Russian economy to become a leading economic power are also explained.

In this respect, the chapter also examines Putin's stance vis-à-vis the oligarchs and explores the selective renationalization of certain parts of the oil and gas sector, attempting to explain the rationale behind the policy as well as the policy's effects on Russia's foreign relations. During this period, the Russian Federation managed to achieve a resurgance in oil and production while international oil and gas prices have consistently increased to historical heights. The Russian Federation enjoyed the substantial positive effects of this revitalisation on its economy. The first decade of the new millennium has witnessed the rejuvenation of the Russian Federation's economic strength and political clout.

The last chapter provides a comprehensive analysis of a synthesis and an evaluation of the similarities and differences between the effects of Russian hydrocarbon policy on international relations through the time periods discussed and presented. The chapter also compares the hydrocarbon policy of the Soviet Union and Russian Empire to that of the post-Soviet Russia. Finally the conclusion also argues that the policy around development and trade of oil and gas resources has become major drivers of the Russian political and economic agenda as never before. In this respect, the conclusion elaborates on several resource development and price scenarios taking into account the Hubbert peak oil theory.

1.2. Methodology

Research methodology in social sciences generally derives from two intellectual traditions. Hollis and Smith (1990) state that the rise of the natural sciences since the 16th century constitute one of those intellectual traditions, while the other tradition comes from 19th century ideas of analysis from within. The former tradition takes the perspective of an empiricist assessing information as it is relayed through observation and analysis, while the latter tradition attempts to understand the perspective of the actors and the meaning of events that drive the outcomes of particular situations. In the field of international relations, this division within the social sciences is reflected by a traditional difficulty of analysis as well as the prevalence of varying methodologies. Being an outsider to object of analysis requires, at least, self-proclaimed objectivity and implicitly recognizes that there are laws, or causal regularities, in the social world that are waiting to be discovered through the formulation and testing of hypotheses. Thus, according to Waltz (1979), successful theorization requires abstraction from facts and finding general patterns from which one can deduce the outcome of interactions among the objects of analysis

Being an insider, however, allows the researcher to access the particulars of every research situation. The uniqueness of social reality and its ultimate dependence on human cognition do not allow the creation of general patterns and causalities. This interpretive approach is the systematic analysis of social action through detailed observation in order to understand how social actions are created and maintained. According to the interpretive approach, the social sciences are self-referential and

include learning processes. The structure of social reality entails the study of a portion of the world. However, the objects of study are facts only through mutually-constituted social action and shared understanding of meaning, action, interpretation and reaction (Ferguson & Mansbach, 1991).

In this respect, methodologically, the study invites all relevant socioeconomic and political factors to understand the increasing role and importance of oil and gas in Russian political society and its impact on the formation of Russian policy priorities. The effort is to provide an account of a situation throughout a historical period and try to understand the outcomes. While doing this, the study will relate the outcomes in the political and economic arena to decisions in the oil and gas sector.

A further point of clarification concerns the units of analysis. There is a constant systemic relationship between the units and the set of circumstances in which these units interact. Systemic or structural theories treat the units as functionally equivalent, rational, and assume that the units will engage in similar behavior when faced with similar circumstances. The unit level theories concentrate on the attributes of the units and assume that outcomes can be explained only by understanding the interaction within and among the units (Ferguson & Mansbach, 1991).

Although it must be accepted that behavior takes place within a certain set of rules and with a certain degree of rational expectation in a Weberian sense, to subsume unit-level action unconditionally to an unseen structure in a Waltzian fashion abstracts a substantial part of the relevant facts from the analysis. The explanations in this study

will try to strike a balance between instrumental (structures) and reasoned (unit) rationality.

In this study, the units of analysis are as follows: the state as an international actor (state as unit in the international system), state as a domestic actor (state as system to its constituent parts), and non-state actors (as international and national units). The subject at hand is multifaceted (business interest groups, bureaucratic interests, political interests) and involves multilevel interfaces (state to state, within and among bureaucracies, state to non-state), with each unit assuming a different set of interests.

Conceptual and explanatory dimensions are also important. This study will employ many concepts from different paradigms of international relations. At first, it may not be obvious that there has been difficulty defining the state in the field of international relations. Generally, scholars of the field employ the term "state" to refer to a national-territorial totality. In this form, the state is a legal entity, a sovereign subject of diplomacy; it includes the government, people, society and the individual. An alternative view of the state relates to the domestic functions of the state: a social-territorial totality that employs a specific set of coercive and administrative institutions through an executive authority (Halliday, 1994).

The orthodox use of state in the field of international relations provides analytical simplicity by assuming that states are equal, that they are representative of their population, and that they control their territory. This theoretical simplicity also implicitly separates the fundamental link between the domestic and international domains of the state. However, in reality, these two domains share strong ties.

Developments in the international domain may trigger change in the domestic workings of the state, and vice versa (Ferguson & Mansbach, 1989). This study will use the concept of the state within a broader perspective, which includes both its functions: legal and social. The state is seen as a specific type of socioeconomic ordering (capitalist, communist, feudal) in which the social elements (academia, workers, business, military, and bureaucracy) interact with each other for influence. As such, the state coexists in an international system of states and abides to a certain code of coexistence.

Another conceptual clarification is required regarding the international system. This study does not presume an anarchical international order in which self-help and the balance of power are treated as a given. Instead, the dissertation assumes that the workings of the international system depend on perceptions, as well as the formative, or dominant, ideology of shaping and defining the means of influence in the system. As Wendt (1992) argues, "Once constituted any social system confronts each of its members as an objective social fact that reinforces certain behaviors and discourages others" (p. 391).

Fundamental change of the international system occurs when actors, through their practices, change the rules and norms constitutive of international interaction. Moreover, reproduction of the practice of international actors (i.e., states) depends on the reproduction of practices of domestic actors (i.e., individuals and groups); therefore, fundamental changes in international politics occur when beliefs and identities of domestic actors are altered, thereby altering the rules and norms constitutive of their political practices. To the extent that patterns emerge in this process, they can be traced

and explained, but they are unlikely to exhibit predetermined trajectories that can be captured by general historical laws, be they cyclical or evolutionary. (Lebow, 1997)

Therefore, the conduct of actors comprising the system of international relations cannot remain constant if a structural shift, such as collapse of an alternative form of government, occurs (Ruggie, 1986). This is the case especially when the collapse is experienced by one of the two main sources of order in a bipolar world.

The perceptions of others (homogeneity, history, shared culture, values) shape the method and character of conduct in the international system The formative/dominant ideology (capitalism, communism, feudalism) in the system or sub-systems defines the roles of states and the avenues through which influence is expanded. Therefore, state interests are constructed and pursued in relation to the domestic and international socioeconomic order. This study also agrees with the Marxist position that the analysis of international relations should include reference to capitalism, including the social formations capitalism generated and the international system it generated (Cox, 2002). This concept is particularly important following the collapse of communism.

The study utilises the term energy leverage as a part of Russia's foreign policy construction. The term is used interchangeably with the concepts energy tool, energy lever. The acts of Russian oil and gas corporations are assumed to reflect Russian state preferences in line with state's ability to dominate the sector's agenda.

The research in this study stems from primary and secondary sources in both English and Russian. The primary sources include the Russian statistical archives, correspondence, reports and documentation prepared by governments and international

organizations. The sources also include correspondence, reports and documentation prepared by companies. Secondary sources include books, articles from academic and commercial journals, conference papers, annual reports of companies, news magazines and newspapers. Like the primary sources, the secondary sources are written in both Russian and English.

1.3. Theory

As Cox argues, all theories have a perspective. Perspectives derive during a position in time and have a context in contemporaneous events. Any social and political theory is bound to its origin since it is always traceable to a historically-conditioned awareness of the actions of contemporaneous actors and events (Cox, 1981). In this respect, the end of the Cold War was an important landmark for the study of international relations. The field, which has thrived on its claim to predict events through its positivist epistemology,[1] found itself in disarray after failing to predict the collapse of the Soviet Union. It was a significant failure. The time period after the Second World War and the onslaught of the Cold War was one of the great catalysts of the development of international relations as a field of the social sciences (Holsti, 1998).

The failure to expect or seriously consider the possibility of far-reaching foreign policy change in the Soviet Union was a failure. International relations scholars were misled by conceptions about the behavior of great powers in general and the Soviet Union in particular. These conceptions determined the questions they thought important

[1] Epistemology refers to how knowledge is defined or arrived at, as in a study of the theory of and the grounds for knowledge, especially in reference to its limits, range of validity, and assumptive elements.

and researchable and directed scholarly attention toward the explanation of continuity and stability and away from the study of the prospect of change.

Soviet and Eastern European specialists were similarly slow to grasp the revolutionary potential of Mikhail Gorbachev. They underestimated the possibility of significant political change in the Soviet Union and exaggerated the stability of Eastern Europe's communist regimes. The post-Brezhnev leadership was not expected to sponsor major political or economic reforms to address the Soviet Union's intensifying economic crisis. (Kappen and Lebow, 1995)

Failure to predict the sudden end of the Cold War triggered a lively discussion on the utility of the methodologies and theorizations used by the international relations field. Positivist conceptualizations came under fierce criticism and were accused of limiting the ontological[2] openings. Previous clashes between theories of international relations resulted in further expansion in the literature.

At its beginnings, the field of international relations used three main strands of thought – namely, Machiavellian (realists), Grotian (internationalists) and Kantian (idealists). Idealism, the philosophical foundation for international economic liberalism as it is known today, came to be accepted until a series of global events and conflicts presented issues that idealism could not explain. Due to the inability of other theories to explain recent turns of events, realism[3] was posited as an alternative explanation.

[2]Ontology to be understood as a body of formally represented knowledge based on a set of conceptualizations: the objects, elements, agents and other entities that are assumed to exist in some area of interest and the relationships that hold among them. Every knowledge-based system, body of knowledge, or knowledge-level agent is committed to some such conceptualization, explicitly or implicitly.

[3] The realist paradigm focuses on the nation-state as the principal actor in international relations; realism's central proposition revolves around a theme of survival in a hostile environment, represented by a large-

Following this period, many new theories of international relations flourished during the Cold War. This expansion in theories resulted from the security threats posed by nuclear proliferation and the bipolar world. Due to its ability to explain the Cold War, the realist paradigm came to dominate theorization in the field (Smith, 1996). However, the end of the Cold War altered fundamental realist presumptions (Buzan, 1996). At its simplest, the end of the Cold War meant the triumph of the capitalist form of socioeconomic organisation over its communist competitor. In his celebrated article, Francis Fukuyama even claimed the end of history, or "the end point of mankind's ideological evolution and the universalisation of Western liberal democracy as the final form of human government" (Fukuyama, 1992, p. 3). From this perspective, the collapse of communism has important implications for the theory of the international relations.

In the aftermath of the Soviet collapse, the international system, and along with it the global practice of international relations, underwent a structural shift. The emerging international order did not fit into a theoretical model in which rational national/territorial units interacted within a given anarchical structure. Conceptualization and theorization around the theme of all-encompassing anarchy lost the explanatory

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scale power struggle. Self-help, sovereignty, national interest, and balance of power are important conceptual tools for explaining action in the realist conception of international relations. The distinction between domestic and international is clearly demarcated, as the latter lacks a clear hierarchical authority. Through the use of the tools mentioned above, the realist paradigm offers the prospects of predicting international events and prescribing policy. Realism, as it exists and is used in the current environment, constitutes a positivist methodology. Specifically, theorization starts by considering the interaction of national/territorial and functionally-equivalent units, called states. According to realists, the state is sovereign and represents all segments of its population. Therefore, the actions of states constitute the subject of international relations. The distribution of power is significant, and state power is represented in terms of hard power, such as the state's military capability for destruction and deterrence. Realists conduct research to predict states' actions based on the international context.

power it once enjoyed during the Cold War. The number, the character and the roles of players in the field of international relations altered fundamentally (Gaddis, 1992).

In addition to economic actors and international organizations, the monetary interaction between independent actors, without any influence or affiliation with respect the state, emerged as a powerful force. Arguably, the international capital that freely circulates in the global economy became a major force in itself, affecting international events and relationships. Two common examples include the 1998 currency devaluation in Thailand, which was one noted cause of the Asian financial crisis or the recent sub-prime mortgage credit crisis all over the world. Such examples show the importance of capital flows to the analysis of international relations.

Additionally, during the dynamic recent period, states also were forced to adjust to increased interaction with international terrorism. Terrorism's impact on domestic security policy increased the number of actors on the international stage. Similar to the non-state actors recently acknowledged in theories of international relations, terrorist organizations have no national affiliation (Halliday, 2001). The destruction of the World Trade Center in 2001 provides an extreme example of how terrorist actors can drive international policy in specific directions. As a result of the attack on domestic soil, America focused its foreign relations policy on the eradication of the perpetrators of the event and on the preservation of its global power. The U.S. declaration of "War on Terror," solidified the treatment of terrorist groups as influential actors in international relations.

All these changes led to an explosion of research subjects in international relations. The endless number of actors with complicated interests made it increasingly difficult to abstract data for the sake of theorization. The long-held emphasis on abstraction in international relations theories gradually gave way to acknowledging the myriad explanations and causes for international events. The dissertation takes advantage of the opening up of new research areas in the field of international relations. It also introduces the domestic issues in to analysis of the international policy which provides another way of analysing relationships between states by looking at a state's relationship with the society within its own borders. In this way, a new framework that includes the domestic policy agenda of a given state can provide additional insight to the theory of international relations.

In many areas, the state acts in conjunction with influential interests within the society. Therefore, there is an organic connection between the international and national functions of the state. On the one hand, the state, if required, creates and/or recruits non-state actors to fulfill its international purposes. On the other hand, the shifts in ideology (from communism to capitalism), attitude (egalitarian to utilitarian) and geography can change the balance between different social groups, which can lead to changes in the processes within society (Halliday, 1994). These changes are both influenced by, and can influence, the relationship between a state and the international system. Russia's development of the oil and gas sector is presented here as a case study to enhance the understanding of the relationship between the domestic policy agenda and that policy's affects on the international relations of a given state.

The theoretical challenge is to show that international relations theories need to account for what is occurring on a domestic policy agenda as much as it emphasizes external factors that occur between nations. Reviewing events as they play out on the international stage provides a valuable collective source of information. The international domain, referred to as 'outside,' acts as a homogenizer – a collective source of values and information. In other words, appearing to act as others do in the international domain can add a sense of legitimacy and congruence to analysis from that domain. Instead, this study attempts to show that the inside of the state itself provide an equally important source of information for pertinent analysis. States, while acting in the international domain, seek to look and act like each other. The domestic domain, which this study refers to as "inside," establishes a set of interests to be pursued, providing the source of state strength.

The pluralist paradigm of international relations, which focuses on sub-national, supranational, and trans-national actors, seems fit to deal with such a setting. According to pluralists, foreign policy has less to do with ensuring the survival of the state, and more to do with managing an environment composed of newly politicized areas and a variety of actors (Hollis & Smith, 1991).

Moravschik's (1997) liberal theory of international politics provides further insight to this study. Liberal international relations theory uses both domestic and international functions of the state to understand the state behavior in world politics. According to Moravscik, the relationship between the states and the surrounding domestic and trans-national societies in which they are embedded critically shapes state

behavior by influencing social purposes underlying state preferences. State preferences change as a result of changing context and information.

Moravschik (1997) assumes that the primary actors in international relations are individuals and private groups who constitute the domestic society from which the state derives its legitimacy. The state as a subset of the domestic society seeks to realise its aims in a framework of action that imposes constraints on both domestic and international behavior. It is the concept of state preferences as established by the domestic society that influences the outcomes in international relations.

Stulberg (2007) provides another important perspective, introducing the notion of strategic manipulation. As noted above, Stulberg argues that a state can influence another state's policy choices by altering its decision-making situation. As decision-makers are forced to accommodate risk and uncertainty, Stulberg believes that states can manipulate a target indirectly by altering the opportunity costs and risks of compliance without precipitating a crisis. This requires, however, that domestic actors in charge of energy issues follow the guidelines of the statecraft.

Statecraft entails the deliberate use of specific policy instruments to influence the strategic choices and foreign policies of another state. It constitutes a unilateral attempt by a government to affect the decisions of another government that would otherwise behave differently. Economic statecraft, which includes threats, inducements, or use of limited force to extract behavior, becomes a means to explain state behavior (Baldwin, 1985).

The study also considers the strategic dimensions of soft power that involve persuading targets by shaping the context and opportunities available to other actors. Nye (1990) argues that states can control policy outcomes not only by exerting direct pressure, but also by setting the political agenda and framing the terms of debate. Nye defines the changing nature of state power emanating from three sources: the attractiveness of a state's culture, its political values and the legitimacy of its foreign policy (Nye, 2004). The oil and gas revenues in the last decade have greatly helped Russia to recover its soft power. After a decade of depression period, Russian economy and culture is reviving once more.

According to Nye (1990), these intangible forms of power have been made more powerful by the changing nature of international politics. He argues that power has been passed, and will continue to pass, from the countries and individuals with capital to those who possess information. Nye states that intangible changes in knowledge can affect military power. In line with Nye's argument, the dissertation suggests that power has become less transferable, less coercive and less tangible. Russia's economic recovery and its use of energy as leverage have increased its ability to wield soft power. This implies that in the new world order Russia is once more fast becoming a global power this time on the shoulders of its vast energy sources.

CHAPTER 2

THE RISE OF RUSSIAN EMPIRE AS A GLOBAL OIL POWER: BAKU

2.1. Introduction

In order to understand the primary importance of oil and gas resources for the Russian state, it is crucial to look at the history of the sector's early development and the various issues that affected the beginning of the oil industry. The initial years of the oil industry shed light on later development trends. It was during these years that the Russian state acclimatized to the nature and extent of the international oil production and trade.

This chapter deals with the oil industry in the Russian Empire and the Soviet Union from the beginning of the industry until the Second World War. It explains how

the oil in the Baku and the Caucasus region was discovered, developed, transported, refined and exported to the global markets. It discusses the impact of the First World War and the Second World War on the progress in the oil fields. It also deals with issues related to the industry's boom and its consequent bust. During this period the Baku oil fields rose to global eminence. After the Soviet rule, Baku fields started a decline and gradually lost its significance, particularly following the Second World War.

This decline is in line with the peak oil theory which was proposed by M. King Hubbert. According to Hubbert fossil fuel production in a given region over time follows a bell-shaped curve. He assumes that after fossil fuel reserves (oil reserves, coal reserves and natural gas reserves) are discovered, production at first increases approximately exponentially, as more extraction commences and more efficient facilities are installed. At some point, a peak output is reached, and production begins declining until it approximates an exponential decline.(Deffeyes, 2002)

Figure 1

Hubbert Peak Oil Graph

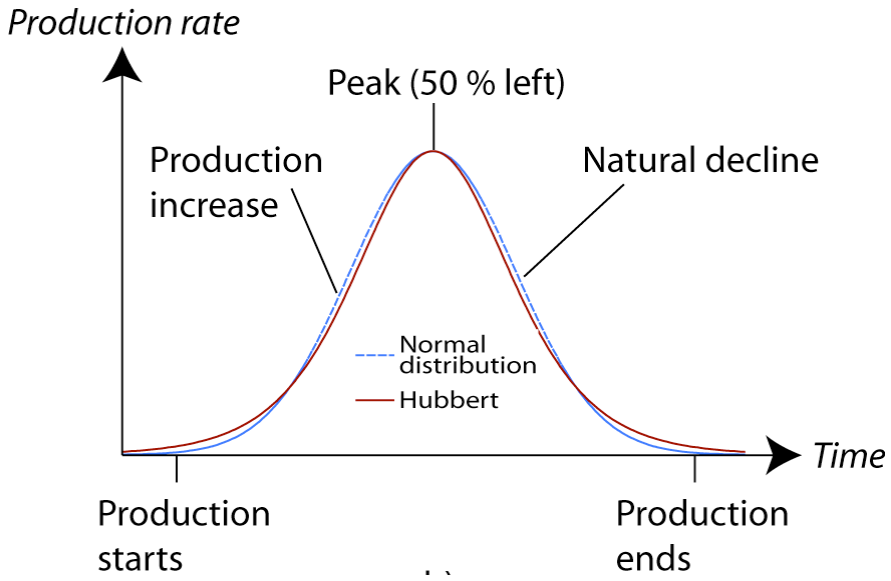

Figure 1: Hubbert Peak Oil Graph

Note: From Deffeyes K. S. 2002. *Hubbert's Peak: The Impending World Oil Shortage*, New Jersey: Princeton University Press p.5

The peaking oil production is usually countered by employing several measures. In the early times the simple response of the industry was to drill somewhere else. When production in a region lost its economic attractiveness the geologists were deployed looking for easily accessible, shallow and economic oil fields. The other measures relate to technological advances in exploration and drilling technologies. The general principles of hydrocarbon development are easily observable in the Russian Empire and it provides an explanation to the permanent shift of the production centres.

These occurrences will be viewed through the analytical lens established in the introduction. However, it must be mentioned that oil has never become an equivalent of grain and timber for the Russian Empire. This was because the oil was not extensively used as a source of energy until the mid-20th century. Therefore, the relationship between the hydrocarbon potential and Russian Empire's international engagements is difficult to observe. Yet, in any case, the first chapter contributes to the general understanding of the thesis. The early development of the oil industry under the Russian Empire helps to trace the development trends of the Soviet oil and gas industry.

The oil sector in the Russian Empire emerged around the Baku region in the late 19th century and flourished mainly around Baku and the Emba on the Caspian shores, and Maikop and Grozny in the Caucasus. Thanks to the seizure of Baku, the Russian Empire got involved in the oil politics almost at the time of its emergence as a global phenomenon (Reynolds, 1916).

As part of this role, concessions to foreign entrepreneurs, worker unrests, bargains with international financiers for large investments in infrastructure, export routes, the competition for markets, privatisation as well as nationalization have always been on the Russian Empire's agenda since the early days of the oil industry and, naturally, shaped the implementation of strategic and political decisions.

Contrary to its later development, the beginnings of the Russian oil industry were dominated heavily with foreign investment and foreign presence. Such a domination of the oil industry by foreigners was never seen in the history of Russia (Yergin, 1991). About 60% of capital investment in the petroleum industry in 1914 was foreign-owned,

and approximately 50% of Russian production was controlled by three foreign trusts: the Nobel Brothers and their pioneering of the Baku region, Royal Dutch-Shell, which bought the Rothschilds' holdings in 1912-13, and the Russian General Oil Corporation, founded in London in 1912.(Goldman, 2007a) Aided by foreign capital, Russian Empire became the leading world producer at the turn of the century, reaching a peak production in 1901 of 11,7 million tons.

Figure 2

Russian Empire and the Soviet Union Oil Production Rates

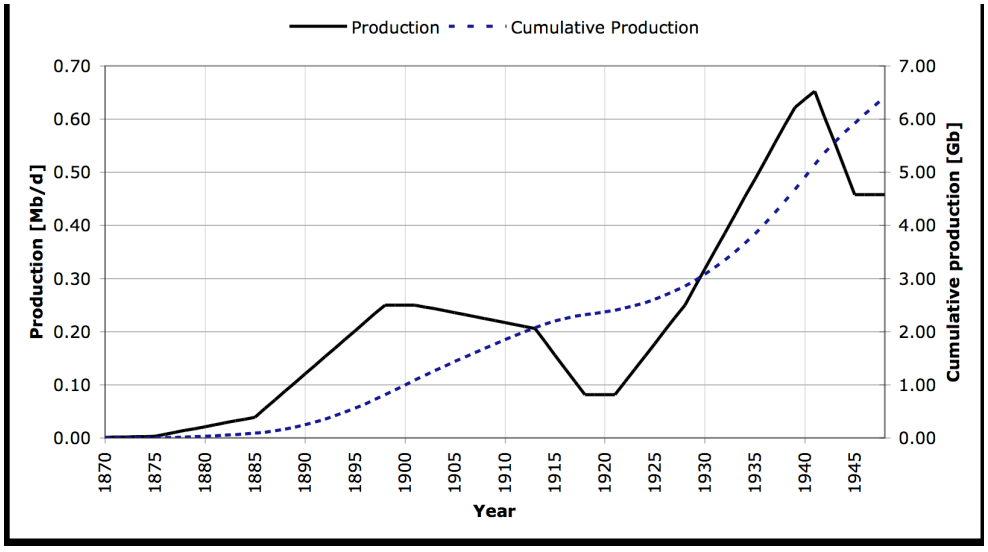

Figure 2 : Russian Empire and Soviet Union Oil Production Rates

Note: From Mäkivierikko A. 2007. "Russian Oil a Depletion Rate Model estimate of the future Russian oil production and export", p. 32

This period was also marked with openness to technological innovation. Russia adopted and applied exploration and drilling techniques from the West's innovation. The private initiative for higher profits produced many ideas to cut costs and simplify transportation. For instance construction of the Baku-Batumi railway in 1890s was directly related to the oil transport capacity. The first pipeline from Baku to Batumi was again built to boost the exports on the face of low domestic prices (Gillette, 1973). The quest for profit drove these developments.

The early stages of oil production served the production of an oil by-product: kerosene. Kerosene was an illuminator; it was much cheaper and more durable that any of its competitor products. In a very short span of time, the use of kerosene boomed in the United States, Europe and the Russian Empire. Later on, spurred by the widespread use of automobiles, energy consumption patterns changed. Oil replaced wood, coal or any other product as the primary provider of all forms of energy. Russia had much to gain from this transformation.

2.2. Early Beginnings

Although the commercial exploration of mineral oil started only in the second half of the 19th century, its use and value were common knowledge centuries earlier. This was even the case in Russia. In the 16th century, Russian travellers mentioned the use of oil for medical purposes and as lubricant by the tribes of the Timano-Pechersky region at the Ukhta River. In 1597, the oil from the region was brought to Moscow ("Istoriia nefti," 2007).

In 1745, entrepreneur Fedor Priadunov was granted permission to extract oil from the Ukhta riverbed, which led to the construction of a primitive oil refinery plant, which exported certain oil products to Moscow and St. Petersburg. In 1823, the Dubinin brothers, renowned chemists, launched a full-fledged oil refinery in Mozdok ("Istoriia nefti v. Rossi," 2007). The emergence of the modern oil industry in the world was associated with the first oil well at the Bibi-Aibat oilfield near Baku in 1846 more than 10 years ahead of the first oil well in the United States.

2.3. The Boom

When Edwin Drake, a retired colonel and an adventurer, established the first successful oil well in Pennsylvania in 1859, the fate of the oil industry changed irreversibly. His oil well technology spread rapidly in the United States. Under the successful entrepreneurship of Rockefeller kerosene started replacing vegetable and mineral oils for lubrication first in the American and then in European markets (Yergin, 1991).

Baku, which was formally annexed by the Russian Empire in 1806, remained an insignificant oil centre for decades. Capital investment in the oil industry is typically front-loaded. It requires time and economies of scale to recuperate the initial investment. In this respect, demand from the Russian Empire and easily accessible shallow oil fields of Baku led to a congruence of supply and demand. In such a setting, capital availability, large projects, better management and know-how generated great added value (Grace, 2005). Initially divided and weak, Baku's primitive petroleum industry was no

competitor to that of the United States, which started its boom thanks to abundant finance, innovative technology, competent human resources and strong domestic market.

In the second half of 1860s the United States was supplying 80% to 90% of the rapidly-growing Russian demand for kerosene. In 1872, partly as a response to growing dependence and partly in view of profitable opportunities on the horizon, the Tsarist government decided to employ private initiative to kick-start the Russian oil industry. (Goldman, 2007a) The beginning of governmental direction of hydrocarbon capabilities had begun.

In the late nineteenth century, the main priority for the Russian government with respect to industrial development included developing transportation, stabilizing the ruble through convertibility and building up an export surplus as a prerequisite for enabling the Russian government to borrow from abroad. In addition, further goals included stimulating the development of new industries in Russia and protecting these industries in their infancy. Possessing rich mineral oil deposits of its own, the Russian government was first determined not to remain dependant on the import of the American kerosene. It was also interested in exporting oil to help implement its industrialization policy (Kahan, 1967).

The significance of enormous oil deposits of Baku was not fully grasped by the Tsarist regime for a long time. As a result, although the beginnings of the oil industry date back to earlier times, its further development proceeded very slowly (McKay, 1984). The development of the oil production in the Baku area and the legal patterns of the possession could be divided into three distinct periods: the Lease System (1821-

1872), the Auction System (1873-1896) and the Auction-Royalty System (1897-1917) (Martellaro, 1985).

In the first half of the 19th century, the oilfields were basically leased to tax-farmers for periods of four years. These tax-farmers were not concerned about anything but maximum profits, due to uncertainty over future possession of the oilfield. Since the contract could have been cancelled any moment, investments in the fields were at a minimum. There were no concerns over the matters of ecology or sophistication of technology (Pogodin, 2006).

As a first step, the Tsarist government annulled the practice of tax-farming and promoted the privatization of the oilfields. In 1872, the Tsarist government issued a set of rules to regulate the production, taxation and privatization of the oil fields, titled "Rules on oil production and excise on the photogene production" and "Rules on the return of the public oil resources situation in the Caucasion and Trans-Caucasian territories from auction to individuals." The oil industry was declared free, the main oil product – kerosene – declared open to removal (40 copecks per pood) and the oil areas were given to individuals by public auctions, to be paid only on one occasion. The first auction took place on December 31, 1872. It was a successful tender, as the estimated sum of half a million got up to three million rubles. Following other auctions in January 1873, prominent entrepreneurs such as Kokorev, Gubonin and Mirzoev established the Baku Petroleum Company (*Bakinskaia neftianaia kompaniia*) (Pogodin, 2006).

By the end of 1898, the total length of the oil pipelines of the Baku oil fields had reached 230 km, with a carrying capacity of one million tons of oil. From 1896 to 1906 the construction of 833 km long Baku-Batumi pipeline was completed, the diameter of the pipes was 200 mm and its carrying capacity was 900,000 tons per year (McKay, 1984).

As the Russian production grew with the innovative and progressive policies, there was a marked decrease in imports from the United States. As can be observed from the following table, the production of oil and the consumption of kerosene in Russia in 1870-1872 increased notably. Oil consumption is measured in *puds*.[4]

Table 1

Production and Consumption of Oil and Kerosene in Russia, 1870-1872

Year	Oil production in Russia	Local kerosene production	Import of kerosene	Total kerosene consumption on Russia	The share of imported kerosene in total consumption
1870	1,704,455 (30.430 tonnes)	339,119	1,440,971	1,780,090	80.9 percent
1871	1,375,523 (24500 tonnes)	444,062	1,720,420	2,164,482	79.5 percent
1872	1,535,981 (24700 tonnes)	474,000	1,793,201	2,267,201	79.1 percent

Note. From Matveichuk, A.A. 2005. "Iz istorii nachal'nogo perioda aktsionernogo uchreditel'stva v neftianoi promyshlennosti Rossii." In Borodkin, L. I. (Ed.). (2005). *Ekonomicheskaia istoriia: Obozrenie* (10th ed.). Moscow.

[4] Pud is a measurement unit that is equivalent to approximately one eighth of today's standard oil barrel.

Soon afterwards, the share of the imported kerosene steadily declined down to only 19.7 percent in 1879, compared to 74.9 percent in 1873 (Matveichuk, 2005). This was a remarkable market capture by any standard.

Russian production rose consistently in the second half of the 19th century. By 1890, the minimal interventionist approach of Tsarist government to oil industry produced substantial achievements. Oil production, which was around one million *pud*s (around 17800 tonnes) in 1870, increased to six million *pud*s in a decade and then to 15 million *pud*s (around 267800 tonnes) by the mid-1880s (Grace, 2005).

The successful rise of Baku as an oil center owed much to Robert Nobel, the elder son of a Swedish immigrant to Russia, who bought a refinery in 1887 and revolutionized the industry. The Tsarist government encouraged the Nobel brothers to introduce cost-cutting logistical innovations, like pipelines and barges. The Nobel family kept effective control over the export routes, which also gave them the leverage to control the oil prices (McKay, 1984).

The near monopoly status of the Nobel brothers continued uninterrupted until the arrival in the region of the Rothschild family following the Russo-Turkish War of 1877-1878. The Rothschilds, who were the major customers of Rockefeller lamp oil in Europe, saw a business opportunity, establishing a base in Batumi, which became a free trade zone after the war. In 1886, the controlling stock of the Batumi Oil and Trade Company (*Batumskoe neftepromyshlennoe i torgovoe obshchestvo*) was acquired by the Rothschild family. The Rothschilds renamed the company Caspian-Black Sea Oil and

Trade Company (*Kaspiisko-Chernomorskoe neftepromyshlennoe i torgovoe obshchestvo*) (Matveichuk, 2005). Shortly after, in June 1892, the Regulations of the Oilfields (*Pravila o neftianom promysle*) that regulated the legal and economic rules of oil production were approved by the Russian government (Furman, 2004).

The remoteness of Baku from consumption centers remained the biggest problem that hampered the growth of the industry. This is another important theme that had major implications on the development of hydrocarbon industry in Russia. Without proper logistical support the economic value of hydrocarbon resources are greatly diminished. For most of the Baku oil production, which was destined for Empire's internal market, this was exactly the case. The oil production suffered from lack of transport infrastructure.

There were two solutions to the transportation problems. One was to build and use the railway line to carry crude oil. The Russian Empire favored and implemented this solution rather swiftly, as railways also served military needs. In 1879, the Rothschilds acquired an imperial license to construct a railway line between Baku and Batumi. The project was finalized in less than five years and changed the balance of trade in the region fundamentally (van der Leeuw, 2000).

In 1884, seeking a solution to the chronic imbalance of crude oil supply and demand, and in light of the critical importance for increasing the share in foreign markets, the Russian government also looked at the possibilities of constructing a pipeline carrying crude oil from Baku to Batumi and other refineries on the Black Sea coast. Although the rail line between Baku and Batumi had been constructed, the

pipeline scheme was not realized until 1903 due to the clashing interests of refiners, rail operators, bureaucrats and financiers (McKay, 1984). Once constructed, pipelines create strategic dependencies. The route of pipeline is an important decision and provides privileges to many of the stakeholders involved in its investment. It is a long-term decision that has a connection to the growth of demand and supply markets.

The last decade of the 19th century witnessed the influx of vast amounts of foreign capital and entrepreneurship in Baku under the Tsar's auspices. Marcus Samuel, son of a London-based merchant who mainly traded exotic shells, rose to the scene in the same period. Samuel had accurately foreseen the likely increase in Japanese demand for lamp oil. He signed a delivery deal with the Rothschild family and solved the transport problem by introducing the first double-hull ocean-going oil tanker (Henriques, 1960).

The successes of Samuel had not gone unnoticed. Within a short time, his venture started threatening the Dutch oil enterprise in the Far East, which had been the unrivalled market leader with the support of Dutch colonization. Hence, Royal Dutch decided to launch an initiative in Baku as a part of the struggle going on between global market players. (van der Leeuw, 2000).

Under the Russian Empire, Baku's peak year for production was 1901 when the output of crude oil reached 11.7 million tons, compared to the United States' 9.5 million tons. The production from the rest of the world was 1.7 million tons. Out of 655 million *pud*s of crude oil produced in Baku, 39 million was exported as such, and from the remainder, 128.3 million *pud*s of lamp oil, 287.3 *pud*s of fuel oil and 15 million *pud*s of

lubricants were distilled; sixty percent was exported via Rothschild's trans-Caucasian railway, while 40% was sold in the Russian Empire and Persia (Wolf, 1976). By 1900, 16 companies controlled more than 65 percent of the overall oil production, while 70% of the total kerosene sales were carried out by only two companies: the Nobel Brothers Company and the Mazut Company (Liashchenko, 1956). The oil production of the Baku oilfields and the prices for certain petroleum products in the last decade of the 19th century can be seen in the following table:

Table 2

Baku Oil Production and Prices of Petroleum Products

Year	Crude oil production (million puds)	Price per pud (in ruble)	Lamp oil production	Price per pud	Fuel oil production	Price per pud
1891	274 (4.9 million tonnes)	5	74.3	17	---	---
1892	286 (5.1 million tonnes)	1.5	78.5	7	---	---
1895	377.5 (6.7 million tonnes)	7	87.8	13.5	175.9	16
1900	600 (10.7 million tonnes)	17	23	23	287.3	18.5

Note. From Tolf, R. 1976. *The Russian Rockefellers: The Saga of the Nobel Family and the Russian Oil Industry*. Stanford: Hoover Institution Press.

2.4. The Demise

Several developments hindered further development of the Baku fields in the first decades of the 20th century. First of all, the demand for oil both in the Russian Empire and Europe started faltering because of rising prices. The situation became

apparent to the Nobels, the Rothschilds and Royal Dutch during the early 1900s. The big three tried to respond by forming a syndicate and connecting Baku and Batumi with a pipeline in order to boost exports. The pipeline was constructed, but the war with Japan in 1904-1905 ended in a severe defeat for Russian Empire. During the war industry workers went on strike, protesting appalling living conditions. The uprising of 1905 followed the strike. Tensions between oil trading partners, social upheaval and political trouble all contributed to the gradual decay and eventual breakdown of the Baku oil industry. Most of the oil wells in Baku were set ablaze during the events of 1905. Production rates did not recover to their peak level until the early 1930s (van der Leeuw, 2000).

Political stability is very important for continuation of any long term economic activity. Once the Russian Empire plunged into disorder the oil production faltered that put extra pressure on the prices. The events of 1905 also taught the investors the virtue of diversifying the source of their oil supply fields. Afterwards, more systematic efforts were undertaken to explore oil in different parts of the region, particularly the Caucasus. The idea was also appealing to the cash-starved Russian Empire. The oil industry responded to the crisis by turning to Grozny, a city that was founded as a military fort to contain Chechen warriors. The entry of Henry Deterding[5] in the Caucasian oil field greatly affected the abrupt rise of Grozny as a major center of production. Deterding was aware of the fact that the demand for gasoline in Europe was sharply increasing and he

[5] Deterding was one of the master strategists of the Royal Dutch company. Soon after he assumed his post in Royal Dutch, he proposed a merger with Marcus Samuel's Shell company who was already highly concerned with the Russian intentions to monopolise the maritime transport of Baku oil for Russian flagged vessels. By 1910, Royal Dutch Shell had become the third power in Baku.

started investing heavily in Grozny fields to capture the major market share with gasoline-rich oil produced there (Gillette, 1973).

Table 3

Oil Output in the Russian Empire, 1912-1920

Year	Baku	Grozny	Cheleken	Kuban	Maikop
1912	48.5 (6.9 million tonnes)	8 (1.14 million tonnes)	0.45 (0.06 million tonnes)	0.01	0.82 (0.11 million tonnes)
1915	43 (6.14 million tonnes)	10.5 (1.15 million tonnes)	0.37 (0.05 million tonnes)	0.08 (0.011 million tonnes)	0.37 (0.05 million tonnes)
1917	35(5 million tonnes)	12.5 (1.78 million tonnes)	0.08 (0.011 million tonnes)	0.13 (0.018 million tonnes)	0.05 (0.007 million tonnes)
1919	22.5 (3.21 million tonnes)	5 (0.71 million tonnes)	0.09 (0.012 million tonnes)	0.21 (0.03 million tonnes)	0.05(0.007 million tonnes)
1920	15.5 (2.21 million tonnes)	7 (1 million tonnes)	0.03 (0.004 million tonnes)	0.09 (0.012 million tonnes)	0.01

Note. Figures are measured in millions of barrels per annum. From Van der Leeuw, C. 2000. *Oil and Gas in the Caucasus and Caspian – A History*. London: Curzon Press.

Prior to the First World War, four big groups were more-or-less at an equilibrium and understanding with regard to production and market shares. The big groups included the Nobels, the Rothschilds, the Royal Dutch Shell and the united *kustari*.[6] In 1912, the Rothschilds, concerned over the rise of anti-Semitism in the Russian Empire, sold their entire holdings to Royal Dutch Shell.

[6] *Kustari* was the name used for minor local producers and traders.

During the First World War, oil production faltered significantly. The Russian Empire suffered millions of casualties. This caused an immense shortage of skilled labor, first due to the conscription waves before the war and then to the loss of workforce during the war. Lack of proper transport infrastructure and insufficient logistical support from the Empire made it almost impossible to continue the oil supply – not even to support the war effort properly. The price of oil during the First World War soared to prohibitive levels (Grace, 2005).

The Bolshevik Revolution of 1917 heralded an episode of turmoil and disarray in the Caspian and the Caucasus. The Bolsheviks had far-reaching objectives when they assumed power in October 1917. A planned economy directly controlled by the community would replace the market, and money would cease to exist as a medium of exchange. Yet in the summer of 1917, Lenin and his comrades had other priorities, such as establishing state control and partial state ownership in order to end the economic and social chaos raging across the country. By the summer of 1918, civil war and foreign intervention were at their height, and for two years the Bolsheviks were embroiled in a desperate struggle for survival (Hosking, 1992).

Between 1916 and 1920, the Russian Empire was devastated by revolution, domestic strife and foreign intervention. The Trans-Caucasian republics of Armenia, Azerbaijan and Georgia briefly gained their independence. The power struggle in Baku continued between the Ottoman Empire, the British and the Soviets until the early 1920s. By the early 1921, the Red Army had forcibly reunited the Caucasus and the Caspian region under the power of the Soviets. Thus, the Bolsheviks held all the

principal oil regions of Russia, except Northern Sakhalin, which was under Japanese rule. The Soviet nationalization decrees had come into practical effect at Baku and Grozny (Gillette, 1973).

2.5. Early Beginnings with the Soviets

The Civil War had destroyed the oil sector in Russia; the production of crude oil was reduced to a minimum. Investment in the sector virtually came to a halt and development of the industry stopped due to hostilities and prevailing unstable environment. The total uprising in Baku in 1918 organized by the oil workers left the city in ruins and more than half of the oil wells in flames (Davies, 1994).

By 1920, at the end of the Civil War, crude oil production had fallen to a mere 25 million barrels a year (approximately 3.5 million tons), less than 30% of pre-revolutionary levels. All assets of the petroleum industry were nationalized. By the beginning of 1921, the country had plunged into a disastrous fuel, transport and food crisis, and unrest spread to industrial workers. There was an excess supply of workers and an untapped potential for labor. The large reserve of unemployed ensured that wages remained low (Siegelbaum, 1992).

Oil output in 1921 only reached a fifth or less of 1913 level; in the case of iron and steel production levels were below 5%. The factories produced on order from Vesenkha[7] (VSNKh) and received materials and fuel in order to carry out the orders.

[7] *Vesenkha* (VSNKh) (*Vysshiy soviet narodnogo khoziaistva*) was the All-Union Council of State Economy or Supreme Council of the National Economy in the Soviet Union. The *Vesenkha* was formed in 1917 and dissolved in 1932. Its purpose was to supervise and control the newly nationalised industries. It had rights of confiscation and expropriation. In each of the union republics of the Soviet Union,

The result was a monstrous growth of bureaucracy and an unworkable degree of centralization. Beginning in July 1921, some structural reforms were introduced. Energy producers again charged for their services and wages were paid in cash. To enable industry to operate this way, it was necessary to divide it into sectors, instead of treating it as part of VSNKh. Smaller industrial units called trusts were established, which controlled varying numbers of enterprises. Each enterprise was expected to operate commercially. Making profits and avoiding losses again became operational goals.

For purposes of production, the oil industry was organized into three State Trusts, each operating in the fields of Baku, Grozny and Emba. The Oil Syndicate, in which the three trusts had representation, supervised the market. The nationalization of the fields under the Bolsheviks simplified the industry and provided a rational plan of development, making possible larger economies of operation. In 1922, the three trusts formed Neftesindicat, a commercial syndicate with full monopoly powers over oil exports and foreign activity. Neftesyndicat was succeeded by Soiuzneft, which was then succeeded in 1926 by Soiuznefteeksport. (Piatilnie Plani razvitiya, 2007)

By the end of 1922, there had been substantial progress in restoring the oil industry in Baku. A new commercial base overtook the state industry. The rebuilding of the oil industry shed surplus staff and compelled more efficient operation by making management pay its way. Under the New Economic Policy, Lenin was prepared to go to great lengths to restore the economy. Enormous effort was made to build up stocks of

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subordinate organisations existed. Any large scale industrial enterprise was controlled by one of the industrial sector departments of the all-union VSNKh.

oil, and scarce foreign currency was used to import locomotives and machinery (Nove, 1969).

In the second half of 1920s, foreign trade began to grow again. Imported locomotives, farm machinery and other equipment all contributed greatly to recovery. By 1923, Soviet crude oil flows reached 5.4 million tons (mt) per annum, which was 3.5 mt over the 1920 production but still lower than the industry peak prior to the First World War. Both crude oil flows as well as Soviet control over the essential oil industry increased steadily throughout the 1920s. Baku remained the Soviet Union's main oil supplier but the almost obsolete state of the oil industry in the region was acknowledged by the Soviet government (Considine & Kerr, 2002).

By 1927, Soviet oil production reached 10.18 mt per annum, only 1.05 mt tonnes below the previous industry peak, 11.72 mt in 1901. The steady increase in output is shown in the following table:

Table 4

Soviet Oil Production, 1920-1928

Year	Soviet Oil Production in Metric Tons
1913	9,215,911
1920	3,893,000
1921-22	4,629,000
1922-23	5,166,372
1923-24	5,942,290
1924-25	6,960,600
1925-26	8,142,000
1926-27	10,184,000
1927-28	11,502,000

Note. From Soviet Information Bureau. n.d. *Industry*. Accessed April 21, 2007 from http://www.marxists.org/history/ussr/government/1928/sufds/ch05.htm

In the 1920s, the Soviet energy balance relied heavily on low-calorific sources of primary energy – in particular, firewood. As the decades went on, the industrial production gradually shifted from firewood to mineral fuels (primarily coal). However, in the early 1930s, Soviet domestic demand for oil and refined petroleum products remained low, because the years of civil war had taken a severe toll on the economy. The lack of domestic demand left more oil available for export. The increasing volumes of oil exports had a staggering impact on the global oil markets. The flood of surplus Soviet oil soon exceeded existing export capacity, inspiring a new wave of ambitious construction projects that were determined to increase infrastructure to acceptable levels. A second pipeline between Baku and Batumi was completed in 1928 and the port of Tuapse was linked by pipeline (Considine & Kerr, 2002).

Beginning in 1926 under Stalin, the scope of administrative controls widened and the role of market forces declined. The new economic policy (NEP) initiated under Lenin was coming to an end. Many branches of industrial activity still operated with considerable autonomy until the end of the decade; however, the contours of the future command economy were becoming increasingly visible. The 15th Party Conference aimed to enact a regime of planned discipline in the activities of all state organs (Nove, 1969).

Preparatory work for a long-term development plan began in 1927.[8] During formulation of the VSNKh's first Five-Year Plan, the targets became increasingly politicized, rarely based on the actual available resources and technical capacity. In April 1929, a variety of options for the first Five-Year Plan were submitted to the 16th Party Congress for approval (Considine & Kerr, 2002). In hindsight, the first Five-Year Plan was far too optimistic in its economic goals. It was impossible to simultaneously increase investment and consumption, industrial and agricultural output and labor productivity by such tremendous percentages, even with the help of revolutionary zeal.

In the first Five-Year Plan the alternatives which would govern the evolution of the Soviet oil industry from October 1928 to September 1933, included a base scenario requiring 62% increase in the production of crude oil from the 10.18 mt reported in 1927 to 19 mt in 1932. In addition an optimal scenario was prepared specifying an 85% increase in the level of Soviet oil production to 21.7 mt by the end of the first planning period (Hassman, 1953).

Taking into consideration that the actual consumption of the crude oil during 1927-1928 was 7.92 mt, and for the year 1932-1933 was estimated as 12.8 mt (compared to the estimated production rate of 21.7), the prospects for the export of crude oil and petroleum products seemed promising (Grinko, 1930). The actual production of crude oil for the above-mentioned period did not diverge much from the planned numbers,

[8] The formation of the plan required an immense amount of detailed work, for which there was no precedent. During elaboration of the plan, two main schools of thought competed. Gosplan (The State Planning Authority set up in 1921) favored "a strictly scientific plan based on collating existing figures and predicting future relationships between different sectors of the economy." VSHNKh concentrated on the heavy industry sector and wanted all other sectors arrange themselves according to the needs of this sector.

reaching 11.6 mt in 1928, 21.4 mt in 1932 and 28.5 mt in 1937 ("Ekonomika promyshlennosti SSSR," 1956).

By the end of 1929, Soviet crude oil production reached 13.86 mt, an 18% increase over the 11.76 mt reported in 1928. Approximately 1.6 billion rubles were invested in the Soviet oil industry between the years 1928-1932. By the year 1932, Soviet crude production reached 21.6 mt, below the official planned target by a small margin (Considine & Kerr, 2002).

During 1929, the strains of the investment program of the Five-Year Plan began to affect all sectors of the economy. The dilemma of capital accumulation and farm surpluses was becoming increasingly acute. Ignoring proposals to increase grain prices, Stalin decided to launch a direct attack on the peasants, which came to be known as collectivization. Approximately six million people died in the process and in the end the Russian peasantry was liquidated as a class. The net result of **c**ollectivisation, apart from its horrendous human toll, was that it literally destroyed the Russian agriculture sector. Grain, which has been Russia's main source of export revenues, was subjected to a sudden and deadly shock. With the increases in urban population following the Second World War, grain production did not keep up with the growing demand. (Gaidar, 2006)

In the four years that defined Stalin's first great leap forward (1928-1932), the Soviet oil industry became a lucrative and highly dependable source of foreign exchange reserves. It was around this time that Soviet oil production regained the output levels in

1901, thanks to the adoption of new rotary drilling technology.[9] Engineering advances provided a marginal increase in the production levels in the 1930s. Combined with still lower domestic demand, low-price, high-quality Soviet oil exports reached 6 mt in 1932, mounting to 18% of Soviet's hard currency receipts. Still, however, timber accounted for the largest share in export earnings (Grace, 2005).

Table 5

Soviet Oil Exports, 1918-1931

Year	Volume
1918	Not available
1919	Negligable
1920	31.3
1921	169.8
1922	381.9
1923	815.1
1924	1504.4
1925	1685.3
1926	2097.1
1927	2787.0
1928	3625.0
1930	4712.0
1931	5224.0

Note. Volume measured in 1000 tons per annum. From Ebel, R. E. 1970. *Communist Trade in Oil and Gas: An Evaluation of the Future Export Capability of the Soviet Bloc*. New York: Praeger Publishers.

The second Five-Year Plan (1933-1937) targeted a fourfold increase in oil production, to around 80 mt, by 1937. However, production of crude oil fell short of ambitious targets (Considine & Kerr, 2002). One reason for this shortcoming was the

[9] At the turn of 20th century, the oil drillers adapted to a new technique which was essentially applied in water well drilling. Rotary drilling uses boring method to cut through rock structures. It requires less crew and can penetrate much deeper levels of earth compared to cable-tool rigs.

impact that 1937-38 purges, executed fiercely on direct orders from Stalin all over the Soviet Union, had on Baku. Thousands of oil workers and scientists were summarily executed (Nazaroff, 1941).

Until the third Five-Year Plan, export revenues steadily increased, which left the economy flush with much-needed cash. Soviet planners' attention had always been on recovery of oil, and extensive systematic oil exploration efforts were not undertaken. The Soviet oil industry started the third Five-Year Plan with newer, more ambitious targets for production (Hassman, 1953).

In this sense, it can be concluded that a trend was established for future oil issues. The production of hydrocarbon resources was driven by the short-term requirements of those in charge of the centrally-planned economy. Exploration, as is required in order to sustain future production, could have been undertaken with the resources available to the economy at the time. The Soviet government, however, would have had to reduce short-term gains in order to execute such exploration.

The annual recovery of oil was targeted to attain 54 million metric tons as against 30.7 million metric tons in 1937. However, the third Five-Year Plan turned out to be a failure. This was Hubbert's theory at work, which was evidenced in the production rates in the fields of Caucasus and Caspian that peaked around an annual figure of 30 million metric tons. In 1941, the Soviets admitted the failure of the production program (Nazaroff, 1941).

Here, the results of not concentrating on both exploration and production were clearly visible. It became clear for the Soviets that without exploration of new resource

basins production rates were almost certain to gradually diminish. This theme recurs throughout the study as short-term decisions that promise increased cash flows were favored by the Soviet governments over longer-term goals to smooth production over time. Systematic exploration was not carried out as long as production form the existing wells satisfied the short term needs.

During the third Five-Year Plan, a substantial increase in domestic consumption of oil had profound implications for the level of petroleum exports. The increase in demand was due to to the tremendous investment in the production of fuel guzzling capital goods. Stalin was determined to transform the Soviet Union from an agricultural economy into an industrial giant. For this purpose, substantial amount of surplus capital was invested in the construction of the Dnepr and Svir' hydroelectric stations, the Semirech'e railway, the Volga-Don canal, and massive metallurgical and engineering enterprises in the Volga-Urals. The Soviet Central Executive Committee envisaged a constant expansion of work on industrialisation and electrification to strengthen the USSR's defensive capacity and achieve economic independence. Transport industry was seen as the most important asset to connect and integrate the backward regions to the Soviet industrial core.

As also shown in the table below, by 1937, Soviet oil exports had fallen to 1.93 mt per annum, the lowest level to be recorded in over a decade (Ebel, 1961).

Table 6

Soviet Oil Exports Table

Year	Volume
1930	Not available
1931	Negligable
1932	31.3
1933	169.8
1934	381.9
1935	815.1
1936	1504.4
1937	1685.3

Note. Volume measured in 1000 tons per annum. From Ebel, R. E. 1970. *Communist Trade in Oil and Gas: An Evaluation of the Future Export Capability of the Soviet Bloc*. New York: Praeger Publishers.

As explained above, the decreasing export earnings triggered a new wave of exploration activities (Considine & Kerr, 2002). At the end of the 1930s, another very important trend was traceable: establishing oil production targets that always exceeded the ability to find new oil. The conclusion was that the Soviet planning mechanism imposed itself a self-inflicted lust to obtain as much as oil in the shortest term possible. The consequences were poor management of the reserves and early resource depletion. This trend was traceable through out the existence of the Soviet Union.

As highlighted already, during the 1930s, virtually all Soviet oil came from the North Caucasus and Azerbaijan. Thanks to new discoveries and application of better technologies the oil industry expanded during the 1930s. In the late 1930s, major fields around Baku, Emba, Grozni began to decline, and total oil output stagnated in the

absence of new fields capable of supporting further output expansion ("Ekonomika promyshlennosti SSSR," 1956).

The Soviet geologists were aware of potentially large deposits in the Volga-Ural fields. Production in these fields was scheduled to leap from two million metric tons to 12 million metric tons in 1942 (Nazaroff, 1941). Yet the declining petroleum reserves of the Caucasus and Caspian were not replaced by the new Volga-Ural finds until the mid-1950s due to the interruption by the Second World War.

The Second World War had severe consequences for the Soviet petroleum industry. Before Operation Barbarossa was launched in December 1941, Germany's oil reserves were depleted. Hitler, acutely aware of this situation, was worried that the whole war initiative could come to a halt due to an undersupply of fuel. German military units were relying principally on the occupied Rumanian oil fields, which were vulnerable to Soviet air raids. Protection of the Rumanian fields, as well as acquisition of further supplies, was crucial for Germany to continue a prolonged battle (Yergin, 1991).

Hitler therefore planned the operation *Fall Blau* (Case Blue), a major campaign during the summer of 1942, which sought to protect Rumanian oil centers from Soviet air attacks through pre-emptive offensives in the Crimea, and to reach Baku through a powerful penetration to the Don River and then into the Caucasus. The capture of the Caucasus oilfields, he believed, would relieve Germany's critical oil shortages and deliver a material blow to the Soviet economy and war effort. On June 1, 1942, four weeks before the summer campaign began, Hitler told the assembled senior officers of

Army Group South that if Germany did not acquire the oil of Maikop and Grozny, then he would have to end the war (Hayward, 2000).

This event presents an example of oil being used as a means of leverage and control over international conflicts. In such a critical situation, oil could drive the plan of attack in a war, or the plan of capital investment in peacetime. Hydrocarbon policy in general, and oil policy in particular, are particularly susceptible to the detrimental effects of government intervention for the perceived short-term gain of the actors.

As the German army occupied Kuban (an oilfield in North Caucasus) and moved towards Grozny, there was not much oil left except blown-up installations and oil wells in flames. The Russian oil engineers and workers abandoned the oil fields and moved to Baku, carrying with them whatever supplies were available. Ironically, the German armies that were marching to capture the Caucasus oil reserves ran out of oil on the passes of the Caucasus (van der Leeuw, 2000).

The German attempt to break through the mountain passes toward Grozny and Baku was repulsed in November 1942. However, the crude oil industry was literally demolished, with the losses of many fields in Maikop, Ukraine, Estonia and parts of Grozny. Soviet oil output in 1945 was barely at half of its 1937 level. In the fourth Five-Year Plan, which was disclosed immediately after the end of the Second World War in 1946, targeted an increase of GNP by 39% before 1950. A significant amount of the total investment budget, 87.9%, was allocated to developing and restructuring heavy industry (Considine & Kerr, 2002).

The oil and gas industry was on its way to become the dynamo of the Soviet economy in the next two decades to come.

CHAPTER 3

THE ROLE AND IMPORTANCE OF THE OIL AND GAS SOURCES FOR THE SOVIET UNION

3.1. Introduction

Compared to most nations, the Soviet Union, throughout its existence, enjoyed an enviable position concerning the magnitude and range of its energy resources. In both total and individual energy resources, the Soviet Union was endowed with fuel reserves and hydroelectric potential much larger than those of many states (Dienes & Shabad, 1979).

However, the development of oil and gas resources in the Soviet Union shared little connection to any overall international energy strategy, but was driven largely by reaction to the pressing needs, mostly conjectural, of the day. When the economy

entered periods of sustained squeeze on the factors of production, land, labor and capital, the Soviet leadership played on finding new oil and later gas reserves to break the tightening bottleneck (Hewett, 1984).

The Soviet energy policy suffered from three major weaknesses. First, it failed to deal with the demand side, to establish and implement a proper conservation policy. Second, the policy did not strike a consistent balance between different forms of energy. Up the end of the 1950s, coal and wood dominated the energy balance. After the 1960s, hydrocarbons were excessively favored over coal and nuclear power. (Znachenie neftianoi i gazovoi, 1972)

The third weakness of Soviet energy policy was the unbridgeable gap between the policy design and execution. The central planning authority, Gosplan, developed annual and Five-Year Plans that did not take into account the needs of the sector. In similar fashion, Soviet energy policy favored extraction over exploration, field operations over industrial support, short-term output over sound infrastructural development (such as housing and roads) and institutional autarky over interdependence. There was a chronic tendency to prefer the near term over the long, the safe over the risky and narrow objectives over broad ones. As a result, efficiency was sacrificed in view of accelerated output expectation, which led to the early exhaustion of many giant fields (Gustafson, 1989).

As was the case in Tsarist Russia, the main constraints of Soviet oil and gas development were always due to location, which specifically meant infrastructure, distance and lack of technology. In order to optimize the use of resources, major

pipelines with strategic importance were constructed to connect the geographically-remote hydrocarbon resources with industrialized parts of the country (Montias, 1959).

The Soviet Union relied on the magnitude and importance of the hard currency revenues from oil and gas exports. The Soviet oil production boom during the 1950s gradually increased the state's hard currency earnings (Ofer, 1987). After the oil price crisis of the 1970s, export revenues became the single largest source of income for the Soviet state. These revenues vitally helped the Soviet planners to subsidize the economy, build a formidable military force and make rapid enact and revise domestic policies without having to consider the reallocation of resources and skills in the complex planning system. Therefore, production of oil and gas was imperative for the political and economic cohesion of the Soviet bloc.

In order to maintain the increase in the production of oil and gas resources, the industry enjoyed the highest investment priority. Moreover, contrary to other sectors of the Soviet economy, the oil and gas sectors were able to finance their investments from their own resources (Broide, 1972). However, merely analyzing the portion of investment budgets earmarked for oil and gas investment may result in an incorrect picture.

Oil and gas investments require at least a ten-year perspective to be able to explore and prepare potential wells. In the absence of such planning and proper logistical support, the efficiency of production can decrease while costs rise. Also, the rule of diminishing marginal rates of return on capital investment strictly applies in the development of oil and gas fields. In other words, increasingly-large investments do not

yield increasingly-large returns to those investments. Instead, the opposite is the case. After a critical threshold, each additional dollar invested yields fewer units of return. The Soviets experienced this economic reality in the late 1970s and 1980s. Although the oil and gas sector swallowed an increasing share of the investment budget, the rates of return on production stagnated and fell (Gustafson, 1989).

The Soviet Union became one of single largest oil producing countries during the 1970s. In 1974, it took the title of the leading oil producer in the world producing around 12 million barrels a day ("Neftianaia promyshlennost'," 1988). The ample volumes of production and exports fundamentally transformed the role of the oil and gas sector with respect to foreign policy as well. (Wolf, 1985).

The Soviet Union started offering discriminatory prices for oil products and a host of additional incentives to seduce third world countries in to the Soviet sphere of influence. Oil was bartered for commodities like coffee, cotton, rice, spices and even fish. Commodity exchange agreements were usually attached with Soviet technical assistance and foreign aid programs. The Soviet-built infrastructure in these developing counties, which included electricity plants and refineries, were primarily intended to use Soviet oil (Gehlen, 1965).

Furthermore, under the framework of the Council of Mutual Economic Assistance (CMEA), the Soviet Union became the primary and direct supplier of hydrocarbons for the Comecon Bloc. The Soviet energy commitment to Eastern Europe increased steadily. With the exception of Rumania, in the 1980s Soviet petroleum covered almost 86% of East European countries' oil imports and nearly all of their gas

imports (Brada, 1988). As a result, the building of a supply pipeline system in 1960-1964 known as 'Druzhba' provided a framework for the Soviet oil and gas supplies to East Germany, Poland, Hungary and Czechoslovakia ("Neftianaia promyshlennost'," 1988).

The Eastern European energy situation was an example of asymmetrical dependence, complicated by the fact that Eastern European economies shared all the unfavorable trends of Soviet industrial development, yet enjoyed none of the resources possessed by the Soviet Union. As the economic and political profile of oil increased considerably after the oil shocks in the 1970s, the Soviets increasingly and constantly faced the dilemma of the pressing need for hard currency earnings from oil and gas exports versus satisfying the domestic and Comecon needs for the sake of political stability (Ellman, 1986).

Although subsidized oil deliveries to Eastern Europe exerted enormous pressure on production level and resulted in the loss of hard currency revenues, maintaining the cohesion and political stability of the Soviet Union as well as its dependents became a more pressing concern. For this reason, particularly after the 1970s, the Soviets often chose to bear the costs of subsidizing the intra-CMEA trade with cheap oil rather than jeopardize political stability (Hewett, 1984).

The need for more oil and gas for political purposes helped little, but resulted in extra pressure exerted on the supply side. This pressure was managed by immense labor effort and by the injection of huge quantities of investment capital. Pressure on the

sector fundamentally worsened field operations and prevented restructuring and reform of the sector (Klinghoffer, 1977).

As the supply of resources became more abundant, the Soviets attempted to penetrate western markets principally by selling at dumping prices. The Soviet attempts to capture markets in Western Europe led to a distress on the international oil prices and became one of the major catalysts for the establishment of Organisation for Petroleum Exporting Countries (OPEC). (Wolf, 1985)

Although the sector was fundamentally important for maintaining the cohesion of the Soviet Union, it was never considered as a primary force aligning foreign policy. Through out the existence of the Soviet Union, the predominant actor in construction of foreign policy was the Secretary General of the Communist Party of the Soviet Union (*Kommunisticheskaya Partiya Sovetskogo Soyuza- KPSS)* while the dominant decision-making body was the Politburo (*Politicheskoye Buro)*. Although the Secretary General was only one of several members of the Politburo, his positions as head of the Secretariat and the Defense Council gave him pre-eminence in the Politburo. Other members of the Politburo also had major foreign policy-making responsibilities, most notably the secretaries of foreign affairs and defence, the chairman of the Committee for State Security (Komitet gosudarstvennoi bezopasnosti--KGB), and the chief of the CPSU's International Department (Edmonds, 1983).

Foreign policy making was heavily centralized as it was the case with planning the economy. The centralization of foreign policy decision making in the Politburo and the prolonged office periods of its members both contributed to the Soviet Union's

ability to plan foreign policy and guide its long-term implementation with a relative singleness of purpose lacking in pluralistic political systems (Edmonds, 1983).

The Soviet foreign policy was driven by the geopolitical context of the Cold War and its bi-polar competition with the United States. The structure of the Cold War was defined by a dominant security agenda, ideological antagonism, assertive interventionism and the arms race. The prevailing perception of the bi-polarity was a zero-sum game revolving around military balance of two ideological power blocs which were established, by means of persuasion or coercion, and sustained by the United States and the USSR (Risse-Kappen & Lebow, 1995).

The Soviet government perceived the energy sector as a tool to further foreign policy goals but never as a foreign policy goal in itself. There were only very few economic issues that could have triggered a change in the foreign policy platform of the Soviet Union (Hewett, 1984). When high priority foreign policy goals were involved, Soviet leaders chose to risk the political consequences of their economic difficulties in an attempt to preserve the core of their foreign policy platform, rather than change that platform.

In the late 1970s, as oil production growth rates began to decline and costs of exploration and development began to rise, there was a change in energy strategy toward a stronger emphasis on conservation and coal and nuclear energy, combined with an intention to save hydrocarbons for the relatively most valuable uses: motor fuels, chemical feedstock and export (Kelly, Shaffer & Thompson, 1982).

Arguably, without the discovery and effective utilisation of oil resources in Western Siberia in the 1970s,[10] the Soviet Union might have collapsed earlier. Oil and gas revenues created significant added value to keep the planning economy going. They paid for a huge Soviet military and industrial build-up. In hindsight, it is difficult to foresee how the colossal Soviet Union could have survived without such a fundamental input (Kotkin, 2001).

The Soviet Union and Eastern Europe needed new technology, more innovation, and greater allocation efficiency to make up for the oil factor in their economies. In the final years of the Soviet Union, exactly from 1988 to 1992, the command economies were forced either to use less oil, to switch to alternative energy sources, or to do both, and in a very short amount of time.

The price of oil had been artificially set much lower than the world price and much lower than its scarcity value within the communist system. This low price coupled with virtually unlimited supplies up to the 1980's, subsidized the Soviet and Eastern European economies. However, once the oil became scarce an unprecedented economic crisis was triggered.

The Soviet economy was not flexible enough to cope with diminishing oil supply, higher internal and lower international oil prices. In the closed Soviet system, the price of oil was set artificially low relative to the outside world and to the international market value of oil. When oil production declined, oil prices had to go up

[10] Interestingly, between 1980 and 1985, the yearly oil production shortage from the planned amounted to 40 million tons only in Western Siberia. See *Neftianaia promyshlennost': vchera, segodnia, zavtra*. 1988. Moscow: VNIIOENT.

inside the closed system. The economic problems related to reducing the use of so much oil were enormous and led to the end of Soviet Union as a political entity.

3.2. Planning and the Soviet Bureaucratic Structure Related to Oil and Gas

3.2.1. The Soviet Energy Bureaucracy

The institutional establishment of the Soviet bureaucratic structure was complicated, involving many layers. The sectors were organized around ministries, represented by enterprises that basically belonged to the state. The relationship between centers and republics in particular sectors of governmental activity varied, and gave rise to three different kinds of Ministries (Nove, 1992).

First there were the all-union ministries based in Moscow that ran the activities of their subordinate units within the various republics. The second type was the union republican ministries, which existed both at the center and the republics. In this case, the republican ministry was simultaneously subordinate both to Moscow and to the council of ministers of the given republic. Finally there were purely republican ministries, which had no direct superior in Moscow, though naturally they had to conform to central policies and plans. The primary policymaker in the system was the Communist Party, which elected a central committee as the executive body. The party virtually dominated all aspects of the state apparatus by deciding on appointments to each and every position (Nove, 1992).

In the Soviet economy, interrelated production processes were coordinated not through lateral communication, but primarily by the administrative command approach

(Broide, 1972). In other words, there was not a market mechanism through which negotiation and mutual accommodation could take place. Instead, a superior central organization, Gosplan, issued direct orders to each lower-level overseer involved in the coordination of a particular process.

Along with Gosplan, the Ministry of Finance, the State Bank [*Gosbank*] and the relevant industrial ministry could also issue the guidelines [*normativy*]. Poor cooperation between the ministries plagued the Soviet system and resulted in a minimum degree of communication among enterprises that were subordinated to different ministries (Broide, 1972). The lack of coordination and disunity of actions hindered effective planned development. Nevertheless, the Soviet oil and gas sector was still considered by Soviet economists as highly profitable.

While many accounts of state socialism assume a monolithic, centrally-administered form of administration for all sectors, there was no single hub controlling oil and gas industries (Arbatov, 1991). Both sectors were horizontally-organized with extraction, production, refining and distribution of oil products each coming under different ministries. In other words, there was no single vertical authority responsible for establishing an overarching energy policy. Five union republican ministries specialized directly in the output, processing and conversion of primary energy sources (Dienes & Shabad, 1979; Vainer, 1990). These were:

1) Ministry of the Gas Industry (*Ministersvo gazovoi promyshlennosti*)
2) Ministry of Petroleum Industry (*Ministerstvo neftianoi promyshlennosti*)

3) Ministry of the Petroleum Refining and Petrochemical Industry (*Ministerstvo neftepererabatyvaiushchei i neftekhimicheskoi promyshlennosti*)
4) Ministry of Coal Industry (*Ministerstvo ugol'noi promyshlennosti*)
5) Ministry of Power and Electrification *(Ministerstvo energetiki i elektrofikatsii)*

The Ministry of Geology played a key role in the exploration of oil and gas deposits (Broide, 1972). Three union republican ministries were specifically geared to supply and serve the energy industry with equipment and facilities (Dienes & Shabad, 1979). These were:

1) Ministry of Chemical and Petroleum Machine Building *(Ministerstvo khimicheskogo i neftianogo mashinostroeniia)*
2) Ministry of Power Machine Building (*Ministerstvo energeticheskogo mashinostroeniia*)
3) Ministry of Construction of Petroleum and Gas Industry Enterprises (*Ministerstvo stroitel'stva neftianoi i gazovoi promyshlennosti*)

Extraction came under *Minnefteprom* and *Mingazprom*, refineries under *Minneftehimprom*, distribution under *Gossnab*, and export was controlled by *Soyuzneft ekhsport* – a division of the Ministry of Foreign Trade. The Ministry of Foreign Trade realized more than a third of total export earnings and more than half of its hard currency earnings were from the sale of fuels and electricity. It imported large quantities of equipment for the energy industries (Considine & Kerr, 2002). At any stage of oil production, the Central Bureau [*Glavnoe upravlenie*] for Transportation, Storing and

Distribution of Oil and Oil Products was also an influential office in the Soviet oil industry (Vainer, 1990).

The Soviet bureaucratic structure, then, was not a simple, centrally-arranged hierarchy. Rather, it was a number of different hierarchies in which horizontally-linked economic units were formed in the regions. These different levels of authorities had considerable administrative control over production at the enterprise level. The abovementioned five ministries and the Ministry of Geology were among the largest[11] and the most influential (powerful) in the entire Soviet economy. They were responsible not only for current production but also for the feasible alternatives of future development.

The primary production units of the Soviet energy ministries, the enterprises and, where they existed, the regional corporations, were roughly similar to such fundamental blocks comprising energy industries elsewhere. Enterprise directors, who were appointed by their Ministry with Politburo approval, had little autonomy regarding the operations. They negotiated annually with their Ministry, which in turn negotiated with Gosplan for a plan covering next year's activity. It was an extremely detailed plan that left few opportunities for local decisions (Gorlin, 1985).

Traditionally, middle-level management was represented by the *glavk*, some of which (*glavki*) were in charge of specialized branches of the industry, certain territorial groupings of enterprises, research institutions, financial activities or some combination

[11] As for oil and gas industry as a whole, only the scientific and technical personnel of the sector amounted to 135,000 men. See Vainer, I. Ia. 1990. "Znachenie neftianoi i gazovoi promyshlennosti v narodnom khoziaistve SSSR. Sostoianie i perspectivy neftianoi i gazovoi promyshlennosti." In *Ekonomika neftianoi, gazovoi i neftepererabatyvaiushchei promyshlennosti*, Moscow: "Nedra," 3-40.

of these. There was an extensive reorganisation during the 1970s to promote specialization and efficiency among enterprises. *Glavki* were grouped into production associations or regional corporations, with one director and internal system of accounting. They were subordinated to the appropriate ministries either directly or through the intermediary of industrial associations (national corporations) (Dienes & Shabad, 1979).

During the initial years of the perestroika reforms, ministries with overlapping jurisdictions were brought under a system called 'Bureau of the Council of Ministers for the Fuel and Energy Complex.' The Bureau was established to increase cooperation and provide efficient coordination to improve the strategic decision making of the energy complex. Also with the reform, production and distribution functions were merged (Dienes & Shabad, 1979). However, considering the sheer size of the task at hand, the efforts to increase cooperation by creating other layers of bureaucracy proved to be futile.

3.2.2. Planning and Its Effects on the Oil and Gas Sector

Five-Year Plans for the National Economy of the USSR, or *Piatiletka*, were a series of nation-wide centralized exercises in order to achieve and maintain rapid economic development of the Soviet Union. The plans were developed by the Gosplan, the central planning authority. The plans were based on the theory of productive forces, which was derived from the general guidelines of the Communist Party for economic

development. Fulfilling the plan was the watchword of Soviet bureaucracy (Levine, 1962).

The Soviet system of heavily-centralized directive planning was different from other various types of planning, or market-indicative planning. The Soviet economy was managed by a hierarchy. The Politburo remained at the summit and the government was responsible for carrying out the policies decided by the Politburo. Nominally, the Politburo was accountable to the Central Committee and the Central Committee to the Party Congress. The basis of the planning economy was scientific planning and execution of the plans through orders. The administrative orders identified what to produce, to whom to deliver the product, from whom to obtain inputs and in what quantities (Nove, 1992).

While these subordinate units were expected to make their own proposals, they had to carry out the planned instructions they received. The success of the system essentially rested on the ability of the planners (administrative orders) to comprehend and analyze the needs of the Soviet society (Levine, 1962). However, the planning system proved to be a failure in many respects.

First of all, the system lost sense of its direction. Actual control over resource allocation was exercised through annual and Five-Year Plans. Both types of plans required and generated substantial amounts of documents due to the complex, lengthy negotiations among the Soviet bureaucracy.[12] The Five-Year Plans established the

[12] The excessive size of the oil and gas industry bureaucracy, as for the Soviet state apparatus in general, was often mentioned to be a great impediment for the industry. Not surprisingly, one of the first remedies of the Perestroika era was the adoption of the Law on State Enterprise on 1 January 1988, which

general strategic priorities for the period concerned but did not allocate resources in any detail; the annual plans, rather, served this function. In principle, annual plans were guided by the Five-Year Plans, but in practice too many things changed during the course of application. So there was no meaningful way of measuring success of production other than the output statistics which were usually on paper fit for purpose but totally unreliable.

These changes were made even more complicated by the uncontrollable variety and volume of data emanating from the enterprises. The requirements of a complex and giant economy exceeded the resources available to planners to collect and process data. In addition, there were problems associated with extreme centralization and confining draft planning to a small group of senior officials. In the end the planning system, rather than being the rational steering mechanism for the economy, assumed a more political and corrupt character, an ideological tool. There was no meaningful way of measuring success of the economy other than the output statistics which were usually on paper fit for purpose but totally unreliable. (Considine and Kerr, 2002)

In this respect, the most critical target was those concerning the growth rate of output. Performance relative to growth of output determined the fate of management of the enterprise (Hewett, 1984). The only way of survival was to match the performance criteria no matter if this served any purpose or not. Cost minimization, profit maximization, or satisfying customer requirements played a decisively secondary role in guiding enterprise management. The net effect was that the enterprises produced

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immediately reduced the managerial staff of the Ministry of Oil Industry [*Minnefteprom*] by 12.7 %. See *Neftianaia promyshlennost': vchera, segodnia, zavtra*. 1988. Moscow: VNIIOENT.

thousands of tons of products that did not meet any specifications. The lack of lateral communication was visible.

Another fundamental flaw in the Soviet command economy was the lack of a pricing mechanism. Prices were not allowed to determine the allocation of resources, which led to a situation where the sense of direction for the economy disappeared with regard to maintaining the market equilibrium (Von Mises, 1981). Goods and services were exchanged among enterprises at prices approximating the average costs of producing and transporting them. As prices were fixed centrally by the State Price Committee, they remained fixed for a long time, and cost increases therefore were not introduced swiftly through price revisions. This is the primary reason why the share of energy sector in the national income never exceeded 15% while more than one third of capital investments were absorbed by it. The prices for natural gas and oil were about two to two-and-a-half times lower than the costs (Kuhnert, 1991).

An important impact of price control schemes, such as the State Price Committee, is the misallocation of resources and over-consumption. Since supply was continually increased to provide for the increased demand at the given price, the net positive effect of the resources owned by Russia were, in part, squandered in the name of price fixing and delivery of a centrally-planned economy with given prices. Accepting delivery of a product at below cost where the consumers pay for an economic loss price creates an unsustainable misallocation of resources and consumption.

Therefore, in the long interval between revisions, prices became an increasingly poor guide to what it costs the economy on average to produce a unit of any product.

Prices, and any costs[13] based on those prices, as well as rates of return, were largely irrelevant, their roles officially having been reduced to a minimum by the supremacy of Gosplan. The result was that prices were changed infrequently and bore little relationship to opportunity costs (Allen, 2001).

Another very important shortcoming of the planning system was that it had no mechanism to incorporate technological experiments. Unlike market economies, the planning system did not have a trial and error methodology where viable technologies were separated from non-viable technologies by the pressure of market forces. The innovation and invention of consumer goods stagnated, and the only way to catch up with the western technology was to import it (Levine, 1962).

Though the government funded scientific research, there was no mechanism to encourage the translation of a technological idea into one with economic application. The planning process, with its emphasis on material balances and set technical relationships between inputs and outputs, had difficulty dealing with change of any kind. (Luke, 1985) Unlike market economies where poor-quality supplies would trigger a change of suppliers, Soviet industry was tied to its suppliers. This lack of market discipline made poor quality products an endemic feature of the USSR economy.

The way the Soviet planning system worked also had long-lasting effects on the development of the oil and gas industry.[14] In the energy sector, the problems of allocation and optimization presented an imposing dilemma for Soviet resource

[13] The more or less flexible wage and payment rate was introduced only after 1986. See *Neftianaia promyshlennost': vchera, segodnia, zavtra*. 1988. Moscow: VNIIOENT.

[14] For detailed bibliography on the Soviet oil and gas production see *Dobycha nefti i gaza*. 1980. Moscow: "Znanie."

planners. The value of assets in the oil and gas sector is usually calculated on a timescale of decades; hence, investment decisions have long-lasting consequences. However, the Soviet planning system, with its heavy focus on annual growth rate of output, did not have the means to accommodate the long-term needs of the oil and gas industry. This led to shorter life expectancy for wells, as most of the oil wells were not exploited for the duration of their expected economic life (Dienes & Shabad, 1979).

To carry out the necessary investments, the oil production associations depended on the state budget, which had no relationship whatsoever to the market price of their product. Hence, the Soviet dogma turned production of physical oil into an end in itself. It resulted in a system in which no rational relationship existed between the quantity of national wealth devoted to oil and the value of oil brought to the nation.(Grace, 2005) The Soviet supply and demand policies in oil and gas were irrational which can be summarized in the following way: supply as much as you can in the shortest term possible and distribute for free to all Soviets. This in effect meant overly aggressive field development and lavish consumption.

The excessive use of water in field development also played an important role in the sudden fall of production for the Soviet Union. Oil's density is lower than water and when faced with water oil floats to the surface. The Soviet engineers in order to keep the production growth widely applied water injection method during the 1970s. However, there are some difficulties associated with the water flooding method. First of all a massive amount of water needs to be supplied and pumped in to the oil wells. Then there

is a certain threshold when the amount of oil from the well gets lower than the amount of water extracted. This is called 'water cut' by the oil industry.

Water cut seems to have played a major role in triggering the Soviet oil production crises. The massive amounts of water injected in to the ground during the 1970s had to be pumped back to the surface during the 1980s. For instance, the rate of water in the giant Samotlor field increased from 24% in 1980 to 68% by 1985. Most of the fields were literally drowning in water, all of which required pumping and processing to recover oil which meant more labour and cost.

Moreover, there was a constant tension between the energy-producing ministries and the ministries that supplied them with equipment for extracting and transporting energy. The energy ministries permanently complained about late delivery and the poor quality of equipment sent to the production fields. This increased the costs of field operations – not to mention the loss of human lives and natural resources. The frequent failure of the field equipment adversely affected the construction and operation of pipelines. The field exploration teams did not have a chance to switch suppliers, which were obsessed with the growth rate of production but not the needs of the end users of the product. The manufactured pipelines (drilling or transportation) did not meet required standards for diameter and resistance. For this reason, the Soviet Union relied on imported equipment for critical parts, such as pump stations and pipelines (Dienes & Shabad, 1979).

Apart from the immediate field problems, another very important consequence of flawed planning was related to the overall development of the Soviet energy balance. Oil

and gas are indispensable, able to be used in various manners to produce energy. They could be applied in the form of heat, electrical power, process steam and mechanical work.

Therefore, it is not possible to extricate the oil and gas production from the overall economic development perspective of the country. Economic decision-making in energy production involves sector and regional allocation, combination and degree of resource substitution throughout the energy system in order to maximize overall advantage from the use of these resources.

The demand for and supply of energy sources, particularly oil and gas, are hardly flexible. In the Soviet case, incomplete planning led to uncertainty regarding the best path of development for oil and gas resources. (Dienes & Shabad, 1979) The producing fields were put under severe pressure from the supply side because government leaders did not optimize energy allocation for domestic and export needs. The inability to control demand and promote conservation resulted in a vicious cycle. Increasing demand was met by increasing production that in turn encouraged even further demand. This impact of the structural weaknesses of the Soviet energy sector was felt even long after the Soviet Union collapsed.

3.3. Expansion and Internationalization: The Second Baku

After establishing control of the oil industry around Baku during the 1920s, the Soviets always had concerns regarding its excessive reliance on the Baku fields, which were vulnerable to military attack. Moreover, following the Bolshevik revolution, the

flight of foreign oil companies from the Baku region left the oil industry devoid of much-needed technical assistance, as well as investment capital. To further complicate matters, the fields in the Baku and the Caucasus region peaked around the late 1930s (Hassman, 1953). By World War II, Baku was the major oil plant of the Soviet Union, providing 70% of the country's overall oil production, despite the fact that the production of oil in the Soviet Union increased threefold in 1940 compared to 1913 (Budnov & Budnov, 1985).

The distribution of the Soviet oil production by the oil producing trusts [*trest*] is described in the following table.

Table 7

Distribution of Soviet Oil Production by the Oil-Producing Trusts

Trust	1937	1942	1937	1942
Kavkaz	25,706.7 (499,000 barrels per day)	35,450 689,000 barrels per day)	90.5%	74.6%
Vostok	1,848.4 (35,900 barrels per day)	13,300 (258,600 barrels per day)	6.5%	27.7%
Sredniaia Aziia	841.6 (15,900 barrels per day)	1,710 (33,200 barrels per day)	2.9%	3.6%

Note. From Budnov, A. D. and L. A. Budnov. 1985. *Neftianaia promyshlennost' SSSR v gody Velikoi Otechestvennoi voiny*. Moscow: "Nedra."

Following the Second World War, the Soviets were worried about finding the necessary resources to support country's industrialization. The beginning of the Soviet

industrialization drive was marked by high annual increases in aggregate energy consumption and was unique in its energy intensity. In 1930, the consumption of primary energy resources in the country was around 1200 million giga calories. The same figure for 1950, 1960 and 1970 follow, respectively: 2785 mgc, 4740 mgc and 8230 mgc. Such a gigantic leap in energy demand required significant resource development (Dienes & Shabad, 1979). However, the prospects in the Caucasus and the Caspian appeared dim.

These problems were partially resolved after the Soviet geologists discovered oil deposits located on the vast landmass between the Volga River and the Ural mountains. The origins of the discovery date back to the Second World War, when Soviet drillers in desperate search for oil found the shallow Tuymazinskoe fields. In order to discover potential new oil fields in the area, an exploration was conducted in 1944. At that point, explorers identified that the basin was home to significant reserves. The new oil fields were named 'second Baku,' marking an important milestone in the history of the Russian petroleum industry. Geographically, the fields were in the heart of the Soviet Union, between the industrial district of central Russia around Moscow and the industrial region of the Urals, (Grace, 2005) which strongly contributed not only into the country's industrialization process but also to its defence capacity (Budnov & Budnov, 1985).

Volga-Urals is a broad province with four widely-separated producing regions at strategic points on the main waterway and railway systems: Molotov, Ufa, Kuybyshev and Saratov. As a result, the costs of production and distribution were minimized. In

some cases, capital costs per ton of crude oil were around one third that of average costs in Baku. This resulted in a sudden shift of attention from Baku and the Caucasus to the Volga-Ural oil fields (Lydolph & Shabad, 1960; Budnov & Budnov, 1985).

The first great discovery in the Volga-Ural region was the Romashinko oil field (peak flow rate of 1.65 million barrels (mb)/d in 1970) in the Tatar Autonomous Republic in 1948. The other four giant reserves, namely, Arian, Mukhanovskoye, Novoyelkhovskoye, Tuymazinskoye, provided almost half of the production. The Soviet planners immediately recognized the importance of the discovery of the oil region, as funds earmarked for Volga-Ural gradually and consistently increased (Grace, 2005). In 1970, the share of the Tatar ASSR in the Soviet oil production amounted to almost 30%, although the share of oil wells in use amounted only to 14.6% (Vainer, 1990).

Figure 3

Volga-Ural Oil Fields and Production-1949-2000 (thousand barrels per day)

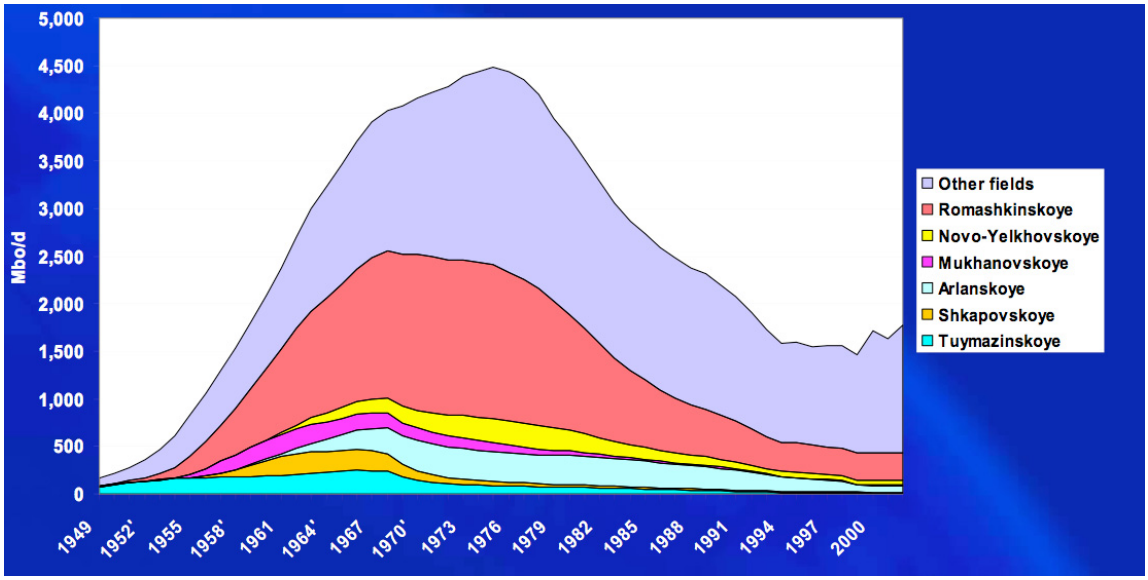


Figure 3: Volga-Ural Oil Fields and Production-1949-2000 (thousand barrels per day)

Note: From Theodor F. "Russian Oil – Current Status and Outlook*", IHS Presentation* Available at http://energy.ihs.com/NR/rdonlyres/26C6F43E-29F7-4486-9B39-B9A07C40AB6F/0/felder.pdf

Up to 1955, 38.2% of all oil investments were allocated to the Volga-Ural region, which marked a diversion from the established oil wells in the Caucasus and the Caspian. By 1958, 45.8% of all Soviet oil and gas investments, approximately 33,068 million rubles, was committed to the development of the Volga-Ural region (Ebel, 1970). Combined with technological advances such as water flooding and turbo drilling methods, this resulted in a significant increase in production from the region. The increase in production is shown in the table below:

Table 8

USSR Crude Oil Production, 1950-60 (thousand metric tons)

Republic	1950	1955	1960
Russia (including Volga)	18231 (354,500 barrels per day)	49263 (958,000 barrels per day)	118900 (2,3 million barrels per day)
Volga Urals	10985 (214,000 barrels per day)	41555 (808,000 barrels per day)	104000 (2,02 million barrels per day)
Turkmen	2021 (39,200 barrels per day)	3126 (60,780 barrels per day)	5278 (102,600 barrels per day)
Azerbaijan	14822 (288,200 barrels per day)	15305 (297,500 barrels per day)	17800 (346,100 barrels per day)
Kazakh	1059 (20591 barrels per day)	1397 (27163 barrels per day)	1601 (31130 barrels per day)

Note. From Ebel, R. E. 1961. *The Petroleum Industry of the Soviet Union.* Washington, D.C.: The American Petroleum Institute.

The share of the Soviet oil production in percentage during the same period is shown in the following table:

Table 9

Percentage Share and Distribution of Oil Production in the USSR

Republic, regions, oblasts	1950	1960	1965
UUSR	100.0	100.0	100.0
RSFSR	48.0	80.4	82.3
Volga-Urals	29.1	70.6	71.5
North Caucasus	16.0	8.2	8.5
Ukrainian SSR	0.8	1.5	3.1
Kazakh SSR	2.8	1.1	0.8
Azerbaijan SSR	39.2	12.1	8.9
Uzbek SSR	3.1	1.1	0.7
Turkmen SSR	5.3	3.6	4.0

Note. From *Ekonomika neftianoi, gazovoi i neftepererabatyvaiushchei promyshlennosti*. 1972. Moscow: "Nedra."

Among other Soviet republics with minor crude oil production for the similar period (1956-1960), Kirghiz SSR, Tajik SSR and Georgian SSR produced 1.9, 0.9 and 0.2 million tons respectively (Buianov, 1977).

Encouraged by booming production and trade figures, as well as in the face of increasing domestic needs, Soviet planners showed clear willingness to expand the production basis in the Seven-Year Plan for 1958-1965, which called for a significant increase in the level of exploratory and developmental oil drilling. The majority of test drillings were to take place in the Volga-Ural region, testifying to the relegated status of Caspian and Caucasus basin. For the first time in the history of the USSR, the volume of exploratory drilling for both oil and natural gas (6743 meters) exceeded that of development drilling (2412 meters) (Dienes & Shabad, 1979).

Table 10

The Distribution of Test Drilling in the USSR, 1920-70

Region	1920-40	1941-50	1951-60	1961-70
Volga-Urals	8%	26%	40%	34%
North Caucasus	29%	23%	20%	15%
Komi ASSR	2%	3%	2%	5%
Siberia	0%	0%	2%	10%
Azerbaijan	42%	25%	11%	5%
Ukraine	1%	5%	7%	11%

Kazakhstan	7%	6%	4%	4%
Central Asia	4%	8%	9%	10%
Others	7%	4%	5%	6%

Note. Percentages are of the total for the USSR From Considine, J. and W. Kerr. 2002. *The Russian Oil Economy.* Massachusetts: Edward Elgar.

In the seven-year planning period, the capital investment in the oil and natural gas industry was 171,500 million rubles. This figure was twice more than that of 1952-1958 period, which was around 72,200 million rubles. This marked a 137.5% increase in investment. The rising amounts of investment and exploratory drilling helped further expansion of production capability and, eventually, the amount of oil extracted (Considine, 2002).

Despite its considerable oil reserves and industrial potential, the Soviet energy policy at the start of 1950s seemed to be questionable compared to the variety of its resource potential. In 1950 the share of coal in energy consumption stood at around 73%, compared to the 20% share of oil and gas combined. In 1960, the energy balance of the Soviet Union still pointed to the dominance of coal. More than half of energy production was from coal; more than a quarter was from oil. Natural gas accounted for only 8% of energy production.[15]

Switching energy resources from coal to oil made economic sense, as the cost of production per unit of oil was almost one fourth of coal, not to mention the relative

[15] To be more precise, for the year 1955, the production of the so-called combination gas [*estestvennyi gaz*], that is natural gas plus associated gas, amounted to 8.98 %. See Brents, A. D., V. Ia. Gandkin and G. S. Urinson. 1975. *Ekonomika gazodobyvaiushchei promyshlennosti*. Moscow: "Nedra."

logistical advantages in transport of oil and gas compared to coal (Lydolph & Shabad, 1960). Moreover, with increasing industrialization and the ubiquitous application of the industrial method, the importance and share of oil consumption as an energy source in production, heating, generating electricity and mobility (including all transport modes) increased to unprecedented levels. The workers' settlements were electrified; railways converted to diesel motor, metallurgical factories as well as cement kilns were supplied increasingly with oil and gas. Kerosene was replaced by electricity for lighting, coal by natural gas for domestic heating, and diesel started to be used as fuel in tractors (Lydolph & Shabad, 1960).

In May 1955, Pravda published an article stressing the importance of increasing the share of oil production in the fuel and energy balance of the Soviet Union. This was the first clear indication that the Soviet government was dissatisfied with the status of petroleum in the energy balance. The seventh Five-Year Plan mentioned the gross imbalance in the energy consumption and advised switching from coal to oil (Considine & Kerr, 2002).

From 1955 to 1960, a major change in Soviet fuel balance took place, which was a direct result of the discovery of the Volga-Ural fields that promised to yield much higher returns per unit of investment. The share of coal in industrial production and heating gradually shrank while the share of oil consistently increased, eventually to substantial levels. The conversion of the Soviet energy source from coal to petroleum, a process that started in early 1950s, was entirely achieved by the end of the seventh planning period (Lydolph & Shabad, 1960).

From 1960 to the collapse of the Soviet Union, oil and natural gas dominated the energy balance by a very wide margin (Brents, Gandkin & Urinson, 1975). Between 1960 and 1982, oil production grew on average by 6.7% and natural gas production grew at a pace of 11.5%. From 1960 to 1970, petroleum production grew at 9% a year, but growth rates started falling after 1970 (Hewett, 1984). Such drastic increases in gas production were an impressive achievement. Between 1958 and 1970, production of gas increased by about 171 billion cubic meters, from 29.9 billion cubic meters in 1958 to 200 in 1970 – almost sixfold (Varakin, 1971).

After the geographical shift in production centres, refineries across the Soviet Union began to undergo changes in location and capacity. Before the Second World War, most refineries were located near to the production centres – namely, Baku, Grozny, Batumi and Tuapse. The products were mostly shipped to consumption centres in refined form. Since the distribution of refined products by rail was two to three times more expensive per ton-kilometre than crude shipped by pipeline, the development of pipelines spurred the construction of large refineries in major consuming areas (Hassman, 1953).

The rise of the Volga-Urals as the country's major petroleum-producing region led to the development of an inter-regional pipeline system beginning in the late 1950s. The crude pipeline network developed in three main directions from the Volga-Urals region: west to Eastern Europe (the Friendship or *Druzhba* Pipeline), northwest to the Moscow-St. Petersburg area and east to Siberia (Lydolph & Shabad, 1960).

Among the important oil pipelines, the Friendship (*Druzhba*) pipeline system was completed and put into operation in 1964. The whole pipeline included 3004 km of 426-1020 millimeter pipe in the USSR, 675 km in Poland, 27 km in East Germany, 836 km in Chechoslovakia and 123 km in Hungary. The Trans-Siberian pipeline from Ufa to Irkutsk was also completed in 1964; the 410 km West Siberian pipeline from Shaim to Tyumen was completed in 1965; and the 1000 km West Siberian Pipeline from Ust'Balyk to Omsk was completed in 1967 (Prybyla, 1965).

The increase in the oil production and the major pipeline constructions had a positive impact on net Soviet oil exports, which reached levels of 14.1 mt per annum in 1959. This was 371% improvement over the 3.8 million tons reported in 1955. By the end of 1960s, just before the West Siberian fields were commissioned, production reached 300 million metric tons, 5,8 million barrels per day. Exports to communist and non-communist nations were 132.5 million tons, 2,57 million barrels per day. The hard cash revenues reached $421 million constituting 15 % of the total revenues in 1965.

Steadily-rising Soviet oil exports and Soviet pricing policies had important repercussions on the world oil markets. Soviet oil started penetrating the international oil markets on a greater scale after 1957. While Soviet exports were increasing at an accelerated pace, the resolution of the Suez conflict facilitated a flood of oil exports also from the Middle East. Oil prices plummeted, driving down profits. Major oil companies found it difficult to compete with Soviet exports, as there was no visible cost floor for the Soviet sales (Parra, 2004).

Figure 4

The Oil Prices and International Events 1947-1973

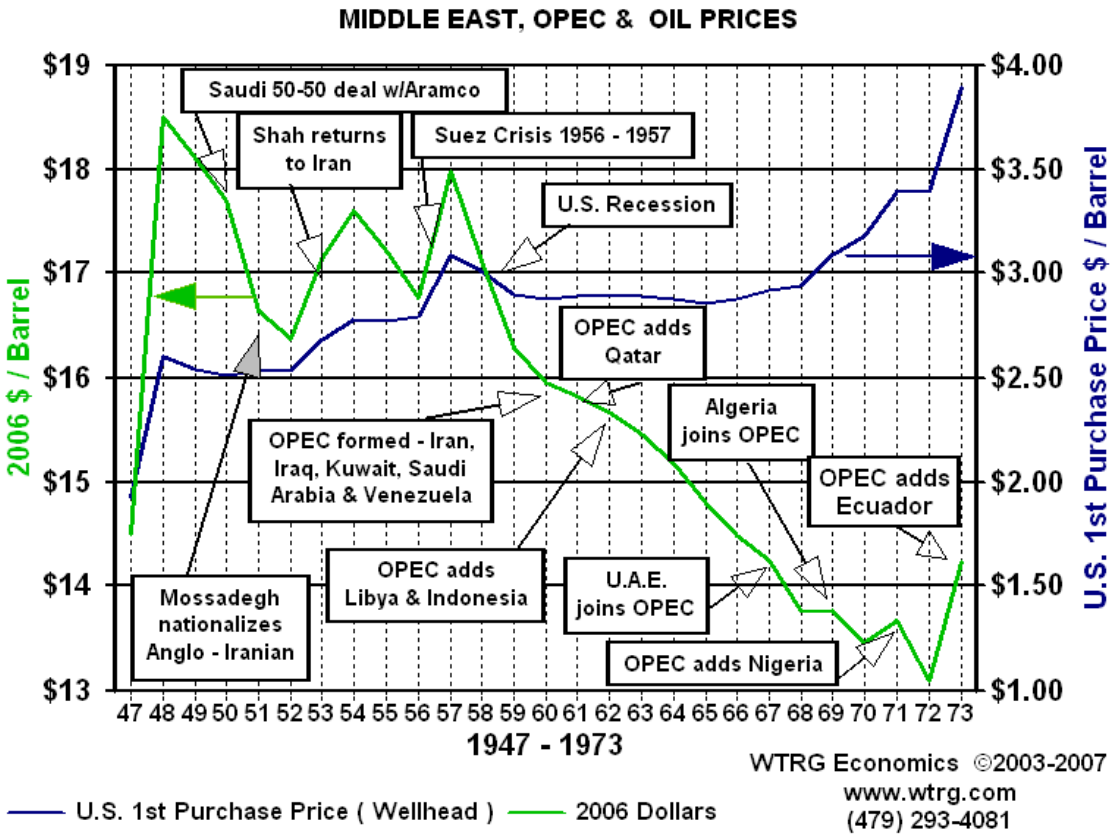


Figure 4: The Oil Prices and International Events 1947-1973

Note: From the WTRG Economics web site

Other international opportunities complemented the increase in production volumes from Volga-Urals. The Six Day war between Israel and the Arab nations in 1967, and particularly the Yom-Kippur War in 1973 triggered an Arab oil embargo. Led by Saudi Arabia, OPEC announced on October 16, 1973 that the Arab countries were cutting production and placing an embargo on shipments of crude oil to Western

countries, the US and the Netherlands in particular. At the same time, OPEC imposed a complete boycott on Israel. The oil companies and other intermediaries cooperated with the embargo; the result was that the world oil prices rose to previously unheard levels, four times the previous highs. The economies of the industrialized countries across the globe were damaged; by early 1974 most of the world was hit by the worst slump since the Great Depression of 1932-1940.

While psychologically effective for a time, the actual results of the Arab/OPEC strategy were primarily price increases, not supply disruption. This provided the Soviet Union with ample prospects to increase both the volume and the prices of crude oil exports to West European markets. By 1974, Soviet hard currency earnings from oil exports had reached $539 million. This marked a 72% boost over the 1962 figures (Clark, 1990). With the climbing oil prices and incearing oil production from Siberian fields, the Soviet budget revenues came to depend heavily on the oil exports to the hard currency markets. This development, which went unnoticed, was actually a signal that the Soviet Union would have had very difficult times if the prices were to plummet.

During the 1960s, three major interrelated changes occurred in the international oil industry that had a direct impact on its evolution and its institutional arrangements. First, new production centres developed in the Soviet Union, Algeria, Libya, Nigeria and the United Arab Emirates. Second, new companies emerged in the market as a result of these new resources. Third, controls over oil supplies weakened and the host governments' influence increased. In sum, during the 1960s there was a substantial and steady increase in the production of oil from new areas (Penrose, 1979).

The new companies did not hesitate to cut prices to sell their oil. Many of them lacked adequate integrated outlets and had no stake in older areas. As a result, the new suppliers were unconcerned about how their price-cutting would affect prices elsewhere. Thus, major international companies' effective control over the flow of oil continued to weaken. As a result, these companies were forced to compete and the pressure on prices continued to mount, indicating a growing surplus in world oil markets. Specifically, sellers desired to sell more than the market would take at existing prices (Penrose, 1979).

As a new market entrant, the Soviet marketing campaign was also aggressive and motivated by practicality. Soviet oil was sold at bargain basement prices in local soft currencies, or even bartered for other industrial or agricultural commodities. Further, Soviet planners encouraged bartering a certain percent of oil production, as it helped in hedging foreign exchange earnings in a highly volatile market (Wright, 1974). As a rule, at the time of a steady increase of oil prices, the amount paid by socialist countries was often the world market price that prevailed some five years before the deal (Kazankova & Sudo, 1998).

While the Soviet Union penetrated Western markets by exploiting the opportunities arising from the international context and enacting discriminatory pricing polices, it was also taking advantage of its captive markets. For instance, East Germany was paying $2.70 for a barrel of oil in 1959, whereas the price of same barrel for the West Germany was $1.69 (Adelman, 1993). In 1961, Brazil imported a barrel of crude oil from the USSR for $1.65, while the posted price in the market was $2.97. The

reduced price for Italy was $1.39, and for Egypt it was $1.44. In 1961, Nefteexport was supplying 10.31% of West German, 22.9% of Italian, 37.9% of Greek, 38% of Austrian and 93.1% of Iceland's oil requirements (Gehlen, 1965). In 1968, the then-neutral Austria became the first Western European country to receive Soviet gas. A year later, two Western European energy giants, the German Ruhrgas and Italian ENI, concluded contracts to buy Soviet gas ("Torgovlia enegoresursami," 2007).

Table 11

Annual Prices for Soviet Crude Oil in East and West Germany, 1959-67

Year	West Germany	East Germany
1959	$1.69	$2.70
1962	$1.30	$2.66
1965	$1.40	$2.33
1967	$1.40	$2.04

Note. All prices are F.O.B. the Soviet border. Currency conversions are based on official Soviet exchange rates (1 ruble = $1.11US). From Ebel, R. E. 1961. *The Petroleum Industry of the Soviet Union.* Washington, D.C.: The American Petroleum Institute.

The main reason for this price difference was the pricing mechanisms agreed under the Council for Mutual Economic Assistance (CMEA) established in 1949 (Prybyla, 1965). Trade within CMEA nations was conducted with soft currency and governed by the strict terms of complex CMEA barter agreements. The prices for all goods were set in the CMEA agreements at five-year intervals, on the basis of world

market prices that prevailed in some previous five-year planning period (Chadwick, Long & Nissake, 1987).

The Soviet Union was always in a position to manipulate the terms of trade with CMEA nations via its political clout. It discouraged Eastern European states from turning to alternative sources of supply whenever it believed that the given commodity could be supplied within the bloc. Moreover, with Soviet assistance, 49 major chemical and petrochemical plants were built in Socialist countries, mainly to process Soviet oil and gas ("Neftepererabatyvaiushchaia," 1967). In the meantime, as politically-induced inelasticity of demand increased, so did the chances for price discrimination (Gehlen, 1965).

Although the captive markets argument seemed valid throughout the 1960s, the events of 1970s proved that captive markets materially benefited from the way the trade agreements were set with the Soviet Union (Maresse & Vanous, 1983). Besides, a good part of the earnings from the Soviet oil exports following the crisis of 1970s were spent as aid for the Eastern bloc countries ("Neft': Bol'shoi soblazn," 2000).

At the beginning of the 1970s, Soviet planners were unconcerned about the oil supply. After converting the country's energy balance from coal to oil, the Soviet Union, for the first time in its existence, enjoyed the luxury of cheap energy in all respects. The country's confidence in its abundance of supply was also reflected by the government's decision to allocate less of its budget to the oil sector in the eighth planning period. The exploratory activities stagnated starting in the mid-1960s.

Again, it is shown for the Soviets that the exploratory ventures proceeded on a cyclical basis of needs. When needs are high, exploration increased greatly; however, when needs fall, so did exploration. Overall, this policy led to gluts and shortages. As stated previously, the long time-span between the investment and the ability to generate returns, or even output, resulted in a mismatch among the above stated lines.

In the 1960s, some fields in West Siberia, as well as fields in Nizhnevartovsk and in Tyumen were also being developed one after another: Ustbalykskoe field (1961), Samotlorskoe field (1961) in the southwest of Surgut and Fedorovoskoe field (1962) and the Sovetskoe field (1962) (Considine & Kerr, 2002). Compared to the Volga-Ural fields, these remote fields produced little.

Table 12

West Siberian Crude Oil Production, 1964-70

Region	1964	1967	1970
Surgut	120	2,561	15,191
Nizhnevartovsk	73	945	11,588
Shiam	16	2,287	4,637
Total West Siberia	209	5,793	31,416

Note. Production measure in thousands of metric tons. From Ebel, Robert. 1994. *Energy Choices in Russia*. Washington D.C.: Center for Strategic and International Studies. And from Elliot, I.E. 1974. *The Soviet Energy Balance: Natural Gas, Other Fossil Fuels, and Alternative Power Resources*. New York: Praeger Publishers.

Oil production in the Volga-Ural region peaked unexpectedly at the beginning of the 1970s; as time went on, production rates started an accelerated decline. Decreasing oil production was not affordable for the Soviet Union as the industrial production became dependent on cheap oil – not to mention the value added created for the Soviet economy by the hard currency earnings. Soviet planners were faced with an urgent need to recover the production rates. The planners sought a wave of precautions, which consisted of the crash development of the West Siberian oil fields (Goldman, 1980). The Russian oil experts were facing yet another peak after the Baku peaked in 1930s. The measures employed were essentially the same; explore somewhere else and use better technology. Conservation was not considered as a serious alternative.

3.4. Crises and Response: the Siberian Giants

Throughout the 1960s, significant changes took place both in the Soviet economy and the international oil markets. In line with the global trend, Russia's domestic demand as well as Eastern European demand for oil products had grown rapidly after 1950. This increase in demand resulted from the expansion of road transport, railways switching from coal to diesel and petrochemicals being used in every aspect of industrial production and household consumption (Vainer, 1990). For instance, in 1970, the amount of oil processed for domestic industrial needs was 1.44 times more than that of 1965 (Federov, n.d.). Moreover, the dramatic actions of OPEC in 1960s heralded the radical transformation for the world petroleum market, as the era of easily-

available oil supplies from the Middle East was over. These factors resulted in mounting pressure on Soviet oil supplies.

To further complicate the issue, by mid-1970s, it was clear that oil output from the Volga-Ural region had declined more sharply than anticipated by industry experts and the Soviet planners. Several reasons explain the accelerated decline. First, exploratory drilling activity stagnated and then shrank throughout the eighth and ninth five-year planning periods due to bureaucratic inertia and a reluctance to shift the focus of the Soviet exploration effort from established producing regions (Goldman, 1980). The Volga-Ural oil output depended on five major fields and more than half of the proven reserves were scattered around in smaller fields. In order to arrest the sharp decline, the Soviets needed to invest substantial sums to develop these smaller fields and apply new technology to slow down the decline of production in established fields. However, such measures required time and were only an interim remedy. In addition, the Soviet planners did not have the human and capital resources to sustain effort in Volga-Ural while simultaneously engaging in intensive exploration elsewhere. A more radical solution was needed to keep the oil flowing (Grace, 2005).

As explained above, drilling activity in the Soviet Union was organized around targets for meters drilled, rather than reserves proved or number of wells operated. This system was biased in favor of development drilling because of the speed and efficiency of development over exploratory drilling activities. Exploratory drilling was risky and the Soviet planners did not like risky ventures. Moreover, it required more time to mobilize and demanded much effort due to the need to carry supportive infrastructure

around the fields. In case of a failure of the exploration well, the oilfield equipment needed to be moved to another test field, which again required proper logistics and resulted in a loss of time and available labour force (Gustafson, 1989).

Apart from the problems of the oil sector, there were also accumulating problems of a more general and important nature. National income and a host of broad economic indices fell short of their targets in the 9th (1970-1975) and 10th (1975-1980) five-year planning periods (Considine & Kerr, 2002). As can be observed from the table below, the growth rates of the economy initially fell and then stagnated.

Table 13

Soviet Economic Growth 1951-1978

	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1978	1976-1979
National Income							
Soviet Official National Income Produced	11.4	9.1	6.5	7.7	5.7	5.1	4.2
Soviet Offical National Income Utilised				7.1	5.1	4.2	3.6
GNP	6	5.8	5	5.5	3.7	3.6	3
Capital Stock	9.9	8	8.6	7.4	7.9	7	
Labour Force	1.5	1	1.1	1.5	1.6	1.6	
Industrial Output							
Soviet Official Gross Output	13.1	10.4	8.6	8.5	7.4	5.1	4.7

Gross Output CIA Estimate	11.3	8.7	7	6.8	6	3.9	3.5
Industrial Capital Stock	12	11.3	11.2	8.7	8.7	8.1	
Industrial Man Hours	4.2	1.1	2.9	3.1	1.5	1.8	

Note. Figures represent percentage of growth per annum. From Hanson, P. 1980. "Economic Constraints on Soviet Policies in the 1980s," *International Affairs* 57(1): 26.

The Soviet economic slowdown was due to systemic problems which were visible in the increasing incongruity between a highly-centralized system of planning and management and the demands of a complex economy. In addition, demographic and geographical factors contributed to the deterioration. Decades of low birth rates led to a growing shortage of labour. The long-abundant inputs to the Soviet economy from labour and natural resources were slowing down (Hanson, 1980).

In addition, the government, fearing and remembering food shortages, invested heavily in the agricultural sector during the Khrushchev and Brezhnev periods. Yet these investments did not yield profitably, bringing nothing but extra pressure on the already strained Soviet economy. Lastly, in view of the Cold War rivalry, the cost of maintaining Russia's military was draining an increasing amount of resources (estimated around 25% of the GDP) from the squeezed Soviet economy (Sakwa, 1999). Disruptions and shortfalls spread to every sector of the Soviet economy.

Even though the economy was slowing down, the wasteful Soviet industry required increasing volumes of energy. In view of the poor Soviet macroeconomic performance during the 10th Five-Year Plan, saving the oil output level became a

government priority for maintaining the cash and budget balance. There was an urgent need to commission new resources apart from the already peaked Volga-Ural fields. West Siberia was the only feasible alternative (Gustafson, 1989).

In 1969, the government published a resolution concerning measures for the accelerated development the oil extraction industry in Western Siberia. Yet, from the Soviet publications of the early 1970s, it is hard to find any public signs of a high-level concern over future energy prospects (Elliot, 1974). The oil industry, as portrayed in the press at that time, was not without problems, but these problems were explained as the consequences of rapid growth. The average annual increase of Soviet oil production for the period of 1965-1970 was 9.4%, while the average annual increase of oil processing among leading capitalist countries amounted to only 8.5% (Bogacheva & Pastushenko, 1971). In his reports to the Party Central Committee in December 1972 and 1973, Brezhnev gave hardly more than an insignificant reference to the subject (Akisuitin, 1991). Neither production nor conservation of energy seemed to be a matter of concern or priority.

It was only at the 25th Party Congress speech in 1976 that Brezhnev showed more interest on energy policy than in earlier speeches. At the central committee plenary of November 1979, it was evident that the stagnant economy and the loss in oil production was becoming a matter of national concern. Brezhnev listed three critical bottlenecks in the economy: energy, transport and steel (Akisuitin, 1991).

Concerning energy, the goal of Brezhnev's strategy was to spare oil and gas for non-fuel uses. This strategy required that the share of nuclear power and coal increased

for electricity production. He gave voice to ongoing public calls to increase the share of coal and nuclear energy in the energy balance in order to save oil and gas. In accordance with the proposed strategy, large mine-mouth coal power plants were proposed for Siberia and Kazakhstan. The produced energy was to be transmitted to the European SSR via long-distance electric lines. Also, the share of nuclear power in the energy balance was to be radically increased. In order to achieve such a strategy, the Soviet investment budget needed a significant re-allocation from oil development to construction of coal mines and new nuclear plants (Gustafson, 1989).

The rationale behind Brezhnev's energy strategy was the oil crisis of the 1970s and the radical transformation of the world energy market which had its repercussions in the USSR The new global perception of petroleum as a relatively scarce, increasingly valuable, economically and strategically critical resource was paralleled in the Soviet Union. In 1970, the price of light crude oil stood around $1.80 bbl. By 1976, it was $12.40, and in 1979 it shot to $30, an increase of 16-fold in less than a decade. These price increases had two consequences for the Soviet oil industry. First, transfers to Eastern European satellites had to increase, but with a much higher opportunity cost in view of ever-widening hard currency market for Soviet oil and gas. Second, it reinforced already-present but still tentative ideas about altering the direction of Soviet energy development (Russel, 1976). Following the oil crisis, the Soviet Union was estimated to earn between 200 and 250 billion current dollars from the export of oil ("Neft': Bol'shoi soblazn," 2000).

The oil market is peculiar because of the varying levels of elasticity of the demand and supply in both the short and the long terms. The fluctuations of prices are enormous. There is a very well-known economic concept of external shocks. In the United States, the world's largest economy, the biggest external shock during the last fifty years was in 1974, when oil prices quadrupled and the terms of trade worsened by 15 percent. For the Soviet Union, skyrocketing oil prices had a much more substantial effect on the GDP, which could be measured in hundreds of percentage points. Thus began the collapse of the Soviet empire.(Gaidar, 2007)

The use of petroleum and gas under boilers started to be questioned, as well. Accelerating the development of surface coal deposits and increasing nuclear power generation capacity were high on the agenda of Politburo discussions. Hydrocarbons were to be devoted increasingly to technological uses, as well as to be exported for hard currency earnings. Publications of projections started to foresee a greater role for natural gas almost in the early 1970s. Also, the 1970s witnessed the beginnings of the oncoming debate over how to apply conservation measures in all areas of the Soviet economy (Dienes & Shabad, 1979).

Toward the end of the 1970s, the Soviets, acutely aware of the rising opportunity cost of oil and gas supplies to Eastern Europe, started assuming a tougher position at CMEA debates.[16] The demand from Eastern Europe grew due to industrialization and a changing fuel balance. The Soviets hoped to slow down the oil export growth to Eastern

[16] A joint CMEA energy program was developed over the annual CMEA sessions which foresaw increasing production of electricity from coal and rationalising consumption of oil. The objective of the program was to develop 37 gigawatts of total nuclear capacity outside the Soviet Union by 1990 which was to replace 75 million tons of standard fuel consumption per year.

Europe to 3% in the country's 10th planning period, as opposed to 10% average in the previous periods. However, oil imports from the Soviet Union reached 1.55 million barrels per day in 1979, nearly double the level of 1970 (National Foreign Assessment Centre-CIA, 1977).

During the 10th Five-Year Plan (1975-1980) the Soviet Union had to make a choice. There was a pressing need for more oil to maintain economic growth. This factor alone precluded investing in re-shuffling the energy balance. This situation was dissimilar to the country's earlier energy transition, when the Soviets smoothly transitioned from coal to oil thanks to the abundant Volga-Ural fields. This time, Soviets had to embark upon an oil campaign for the simple reason of keeping the economy going. The oil campaign targeted Western Siberia and essentially consisted of the crash development of oil and gas resources. The production targets for Western Siberia were revised radically upwards in the 10th Five-Year Plan (1975-1980).

In late 1977, Brezhnev, in a speech to the plenum of the Central Committee, stressed the decisive importance of the Tiumen oil field for this purpose. In the spring of 1978, he paid a personal visit to Siberia in an attempt to inspire geologists and back up his new policy course (Aksiutin, 1991).

The oil discoveries in Western Siberia concentrated along the river Ob's route, the major gas finds were farther north in the Yamal-Nenets peninsula. As the oil fields moved to the West Siberian fields, the exploratory effort became even harder due to the requirement to drill deeper in harsher terrain and poor climactic conditions. Although the West Siberian climate is cold, the basin is quite swampy and seasonally soggy. It is one

of the most challenging environments to produce hydrocarbons. Between 1970 and 1979, while exploratory drilling fell from 2.8 to 2.5 million meters, development drilling more than doubled, from 6.2 to 13 million meters (Gustafson, 1989).

Figure 5

Oil Production Rates in Western Siberia (thousand barrels)

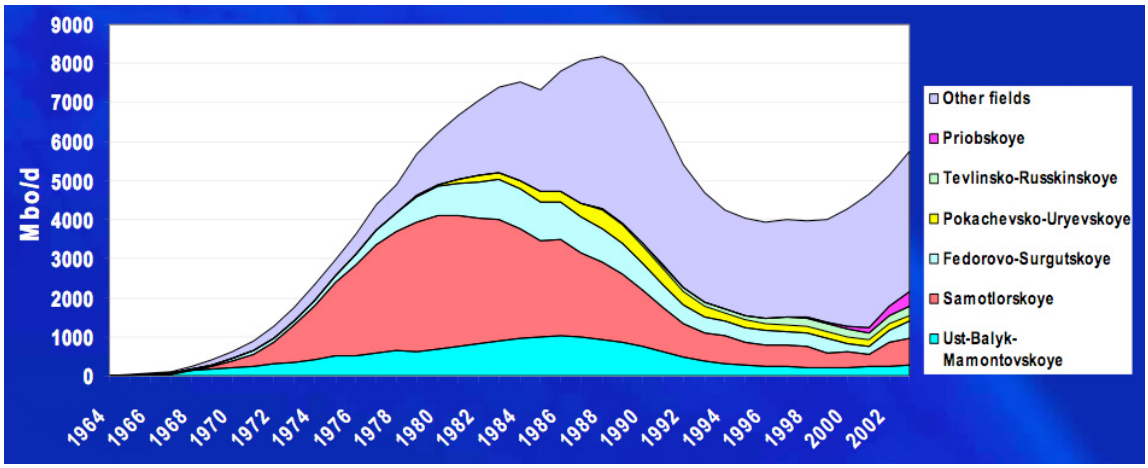


Figure 5: Oil Production Rates in Western Siberia (thousand barrels)

Note: From Theodor F. "Russian Oil – Current Status and Outlook*", IHS Presentation* Available at http://energy.ihs.com/NR/rdonlyres/26C6F43E-29F7-4486-9B39-B9A07C40AB6F/0/felder.pdf

Similar to the early years of development in the Baku region, the transport of resources from Siberia proved to be the single biggest problem for the oil industry. The nearest refineries were located in the Volga-Ural region, particularly Ufa and Omsk. The only possible way to transport oil was via rivers. By 1970, urgent measures were needed

to link Shaim with Tyumen and Ust-Balyk with Omsk. The refineries at Omsk and Angarsk were to be enlarged (North, 1972).

Subsequent pipeline developments have mainly involved linking new or expanding crude production areas. Development of the new West Siberian fields in the late 1960s and 1970s posed a considerable transportation challenge, as they were located some 2,400 kilometres further east of the Volga-Urals. Moving crude oil from the rapidly-expanding new fields in West Siberia to the main refining centres in the eastern portion of the country and the main export points along the western borders required the construction of a massive new pipeline network

This has included a 1220 mm pipeline from Samotlor east through Anzhero-Sudzhensk and Krasnoyarsk to the refinery at Angarsk, constructed between 1972 and 1981, the large-diameter Samotlor-Almetyevsk pipeline, which was completed in 1973, and the Nizhnevartovsk-Samara pipeline (also 1220 mm), which followed in 1976. These lines increased transmission capacity between West Siberia and the European parts to about 175 mt per year. Another large diameter pipeline was constructed from Surgut to Novopolotsk in Belarus, and was completed in 1984; a second 1220-mm pipeline along this route (Kholmogory-Klin) was completed in 1985, each adding another 75 mt to westward transmission capacity. ("Joint Committee for Programme Development", 1994)

The heightened profile of the oil and gas was also supported by injection of capital funds. Soviet investment in the energy sector reached 88.6 billion rubles in the years 1976 to 1980, a 45% increase over the 61 billion rubles reported in 1971-75. The

energy industry accounted for over 40% of the Soviet Union's total investment in industry (Considine & Kerr, 2002).

Table 14

Capital Investment in the Soviet Energy Economy, 1965-80

Five-Year Plan	1961-65	1966-70	1971-75	1976-80
Total Soviet Investments	213.3	306.3	437.2	567.2
Total Investments in Industry	87.7	119.7	168.6	219.3
Energy	30.0	42.0	61.0	88.6
Oil	9.3	13.1	20.5	32.2
Gas	3.9	7.3	13.8	23.7

Note. Figures are in billions of rubles in January 1, 1969 prices. 1969 prices have been corrected with consideration for the new forms for construction introduced in January 1976. From Considine, J. & W. Kerr. 2002. *The Russian Oil Economy.* Massachusetts: Edward Elgar.

From 1966 to 1978, the majority of the capital expenditures and investment for the oil and gas industry were absorbed by the extraction industry. As shown in the tables below, the share of oil and gas in the total investment remained around 4%, which did not account for the varying costs for the ageing fields (the necessity to drill ever deeper), the harsher climate of Siberia and the decreasing returns on developing smaller fields.

By 1980, Western Siberia surpassed the Volga-Ural region in terms of investment absorbed from the budget.

Table 15

Capital Investment in the Oil Industry by Region, (1965-85)

	1965	1970	1975	1980	1985
Russia	63.58	68.50	71.32	83.53	88.15
North Caucasus		14.80	9.90	5.60	3.20
Volga-Urals	46.90	45.40	43.10	23.90	24.50
West Siberia	1.30	5.20	12.50	48.70	56.70
Azerbaijan	13.42	6.36	4.99	2.58	1.91
Kazakh	4.90	5.83	7.10	5.54	4.45
Turkmen	7.88	6.82	4.77	2.39	1.63
Total RFSFR	100.00	100.00	100.00	100.00	100.00

Note. Figures expressed as a percentage of the total capital investment. From Considine, J. and W. Kerr. 2002. *The Russian Oil Economy.* Massachusetts: Edward Elgar.

There were three crucial inputs for the continued expansion of the Soviet oil production efforts. The availability of capital and labour for the oil sector in vast

quantities was a sine qua non. Furthermore, decisions regarding how to allocate resources between old and new fields became extremely important. Another pressing matter was the decision of how to divide inputs between exploratory and development drilling, not to mention the productivity of these inputs (Hewett, 1984).

As to the prioritisation of the production fields, the government made the decision in favor of the Western Siberia region. The region's share in the investment budget rose (Dienes & Shabad, 1979). The majority of the investments went to crash development of the new fields. Yet the Soviet planners failed to estimate the speed with which the output of hydrocarbons from remote areas could be delivered to centers of demand. The Soviets also underestimated the cost and lead time required to lessen the dependence on petroleum as a source of energy. Re-shuffling the energy balance in favor of greater coal and nuclear power required huge investments to restructure industry as well as develop infrastructure, ambitious conservation programs and a transition phase. Soviet energy demand was, on balance, structurally-determined (Kelly, Shaffer & Thompson, 1982).

Between 1976 and 1980, development drilling increased by 72% compared to the period between 1971 and 1976, from 37 million meters to 65 million meters. By 1980 the West Siberian oil production reached 322.46 million tons, accounting for 53% of total Soviet production, whereas the Volga-Ural region contributed less than 30% (Nekrasov & Pervukhin, 1977; Considine & Kerr, 2002). USSR crude oil production in the 1980s, divided by region, is shown in the table below.

Table 16

USSR Crude Oil Production, 1980-1988

Region	1980	1985	1986	1987	1988
Kaliningrad	0	1,523	1,511	1,421	1,300
North Caucasus	18,412	10,521	10,116	9,835	9,380
Volga-Urals	185,869	135,544	128,394	122,853	115,831
Komi	18,075	18,215	18,269	17,344	15,600
West Siberia	322,459	365,805	389,665	403,403	407,845
Sakhalin	na	2,589	2,452	2,410	2,400
Others	25	178	183	247	384
Ukraine	6,383	4,835	4,756	4,652	4,487
Byelorussia	2,551	2,019	2,028	2,041	2,010
Georgia	3,186	552	179	183	120
Azerbaijan	5,053	3,909	3,902	3,734	3,700
Kazakh	18,836	21,493	21,688	21,914	21,925
Uzbek	18,836	21,493	21,688	21,914	21,925
Total USSR	603,207	595,291	614,752	624,177	619,401

Note. Figures represent a thousand metric tons. From Considine, J. and W. Kerr. 2002. *The Russian Oil Economy.* Massachusetts: Edward Elgar.

3.5. Crisis and Response: the Gas Campaign and Conservation

Rising production costs and conversion of the energy balance were recurring themes during the Brezhnev era and even for the successor Secretary

Generals'Andropov and Gorbachev. All of them tried to take measures to lessen the consumption of oil in the Soviet Union. Also the dependent situation of the Eastern European economies was becoming a more serious problem when the opportunity costs were taken into account.

In 1980-1981, while the struggle for more oil continued Soviet planners and leadership made a major decision that changed the course of Soviet energy balance fundamentally. During the 11th five-year (1980-1985) planning period, development of gas was prioritized, and the government gave a distinct preference to gas over oil in the Soviet fuel balance (Gustafson, 1989). The purpose of this move was to ease the pressure on declining oil reserves, to accelerate the conversion from oil to gas in energy production and to improve energy conservation measures. Switching to gas also meant that more quantities of oil could be spared for export, which in turn had a positive impact on the hard currency earnings.

Natural gas production did not receive any attention from the Soviet planners until the 1950s. Most of the Soviet Union's natural gas production came from the oil fields and refining activities. The gas was burned in open flares in most of the production fields. As a result of consistent investments, gas production increased substantially during the second half of the 1950s and throughout the 1960s. Yet gas production was still far below the levels needed to serve as a substitute to oil (Lydolph & Shabad, 1960).

Moreover, natural gas, which is a perfect substitute of oil in all fields of energy usage, suffered from a lack of critical infrastructure investments and storage facilities.

The idea of transporting Siberian gas via long-distance pipelines initially did not appeal to the Soviet planners and appeared costly due to required capital expenditures (Gustafson, 1989).

On the other hand, the increasing costs of recovering oil and diminishing coal resources were two significant factors that convinced the Soviet planners to initiate a large-scale investment (Hewett, 1984). An extractive industry can contain rising costs via increasing its efficiency through innovation, improving its management and continuing vigorous exploration. In the first half of the 1980s, the Soviet energy establishment implemented none of these options properly. To keep the energy output growing, alternatives were desperately needed. This meant yet another increase in the share of energy in total industrial investment.

In order to provide a bridge for diminishing oil reserves, the Soviets decided to increase the existing natural gas output in five years by nearly half, from 435 billion cubic meters in 1980 to 630-640 billion cubic meters in 1985. This meant that natural gas was to provide 75% of the net addition to the fuel balance. In order the reach this challenging target, the gas industry was allocated 36 billion rubles, a sum which was more than the allocations of the last 15 years combined (Gustafson, 1989). (From 1966 to 1980 gas investment grew from 4.05 billion rubles in the eighth plan to 19.3 in the 10^{th} plan.)

The increase in energy investment between 1981 and 1985 absorbed over a third of total investment budget growth. Energy in itself absorbed nearly 90% of the 44 billion ruble increment allocated to the industry, leaving symbolic figures for the rest. Due to

rising unit costs of production, the growing investment burden generated less oil output than the previous five-year period. For instance, during the ninth development plan, a 38% increase in investment had yielded a 28% increase in energy production, whereas in the first half of the 1980s, a 48% increase in investment produced only 13% more energy.

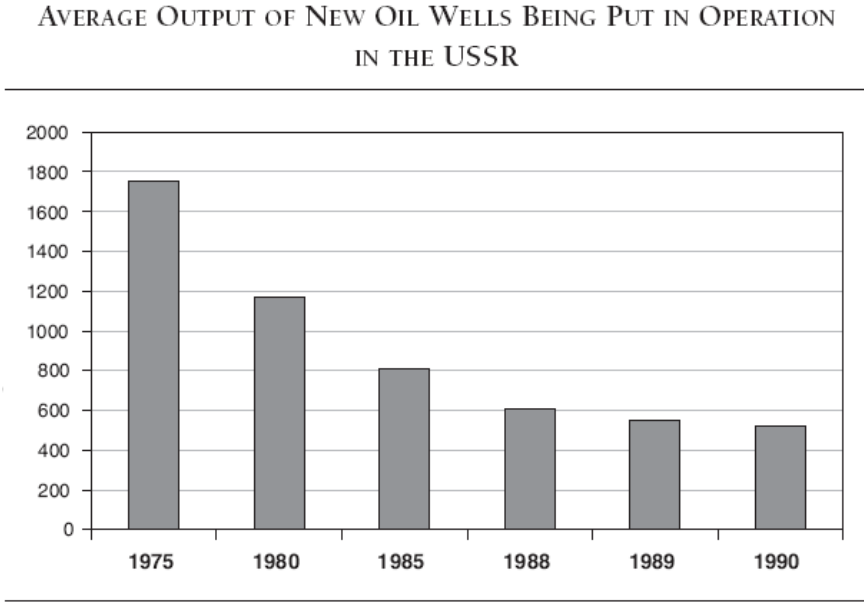


Figure 6. Average output of new oil wells put in operation in the USSR, 1975-1990

Note: From Gaidar Y. 2007. "The Soviet Collapse: Grain and Oil", American Enterprise Institute for Public Policy Research, p.4

Most of the investments under the 11th Five-Year Plan went to gas pipelines connecting the West Siberian gas fields with the European SSR. Two-thirds of the allocation went to the construction of trunk lines connecting the natural resources with industrial and export centers. Despite these difficult goals, the gas industry lived up to the challenge. All required pipelines were built ahead of schedule (Gustafson, 1989).

The table below clearly shows that the bulk of the investment budget started shifting to oil and gas sector particularly at the end of the 1970s. This shift occurred because oil and gas output had started to become the backbone of the economy.

Table 17

Capital Investment in the Soviet Economy, Industry and the Fuel and Energy Sector (1971-1988)

	1971-1975	1976-1980	1981-1985	1985	1986	1987	1988
Total investment %	562.8 (100)	717.7 (100)	843.2 (100)	179.5 (100)	194.4 (100)	205.4 (100)	218.2 (100)
Of which industry % of total	196 (34.8)	251.4 (35)	300.7 (35.7)	65.5 (36.5)	71 (36.5)	75 (36.5)	79.5 (36.4)
Of which fuel and energy sector	56.8	75.7	108.9	25.4	27.4	30.1	31.8
% of total	(10.1)	(10.5)	(12.9)	(14.1)	(14.1)	(14.7)	(14.6)
% of industry	(29)	(30.1)	(36.2)	(39)	(39)	(40.1)	(42.4)

Note. Figures are in billions of rubles at constant prices. From Kuhnert, Caroline. 1991. "More power for the soviets: perestroika and energy," *Soviet Studies* 43(3): 501.

Despite successes in the pipeline construction, the Soviet energy elite generally failed to capitalize on the improved access to investment as an opportunity to increase the efficiency of field operations, to reinforce the industrial base, to increase exploration

and accelerate the development of new Siberian fields or to improve amenities in the fields. The main result of five years of Brezhnev's crash oil program and natural gas attack was to aggravate the previous imbalance of the oil industry and thus produce further trouble.

First, the costs of drilling continued to increase significantly. By 1980, the average depth of exploratory wells increased by almost 50%, to 2800 metres. The cost of drilling also more than doubled, from 113 rubles in 1960 to 400 rubles in 1980. Despite these challenges, better technology and higher-quality equipment could have overcome the poor terrain of new well sites.

However, due to rising Cold War tensions, the trade-offs between military investment and investments in the energy sector became starker. For instance, high-quality steel was reserved for high-priority military uses and was not made available to manufacture more resistant drill pipes. Consequently, the Soviet oil industry was obliged to resort to drilling techniques that did not require top-grade steels; this limitation in turn imposed limits on the depth and speed of their drilling (Meyerhoff, 1980).

The situation was made even worse by the chronic deficiencies in the quality and availability of materials, equipment, spare parts and supplies. The equipment used by the Soviet oil and gas industries was obsolete in design. The manufacturing was poor, resulting in frequent failures. Usually deliveries to construction sites did not follow a set schedule – not to mention the high rate (almost one-third) of defective equipment (Matosich & Bonnie, 1988). The severity of the industrial support problem further raised costs and the sector had to substitute missing equipment with more labor. However,

despite dramatically-increased compensation for energy workers, there was an acute shortage of labor.

Last, poor reservoir management and the inability of the central planners to account for the different characteristics of smaller reservoirs exacerbated the situation. With increasing drilling depths and harsher terrain; these factors considerably affected the efficiency of site crews and their ability to extract greater quantities of oil and gas. The pressure to recover more quantities in short time to fulfill planning quotas justified the excessive use of water flooding, a method that allowed higher yields but a shorter well lifespan. As the graph below suggests, exploratory work was almost forgotten (Lydolph & Shabad, 1960).[17]

Figure 7

Curtailment of new drilling and field development

[17] In the water flooding method, new oil wells are drilled in the top of the oil bearing structure, holes are driven down the slope on the on the rock structure completely surrounding the field, and water is forced in at approximately the same rate at which oil is extracted, thereby maintaining the pressure and eliminating pumping.

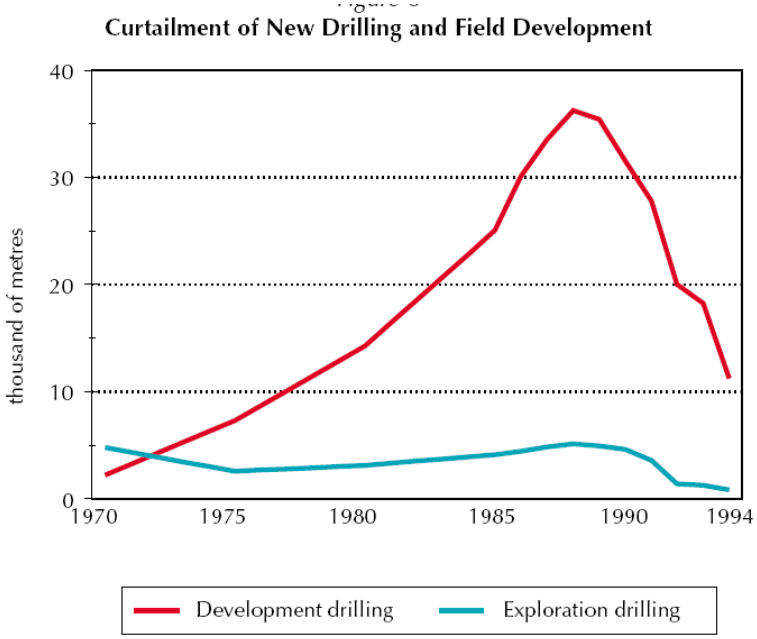


Figure 7. Curtailment of new drilling and field development.

Note: From "The Energy Strategy of Russia", Moscow Joint Committee for Programme Development, 1994, p. 134

Further, as indicated in the graph below, there was reluctance as well as inability to adapt to enhanced recovery techniques that were commonly used in the oil fields out of the Soviet Union (Considine & Kerr, 2002).

Figure 8

Secondary Production Techniques Used

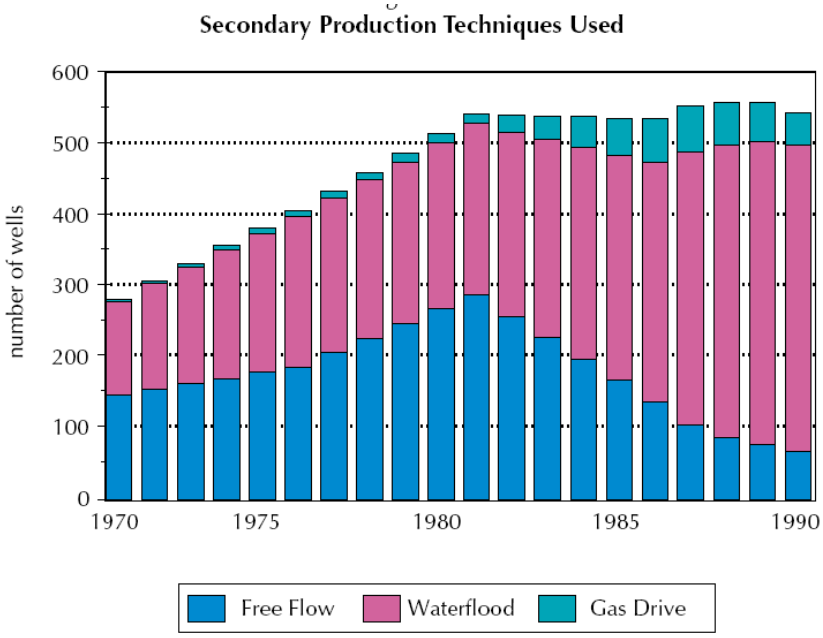


Figure 8. Secondary production techniques used.

Note: From "The Energy Strategy of Russia", Moscow Joint Committee for Programme Development, 1994, p. 141

In the first half of the 1980s, the share of oil and gas export revenues in total export revenues reached around 80%. In 1980, the total exports of the Soviet Union were around $27 billion, out of which the oil industry provided $18.1 billion and the gas industry provided $3.1 billion. This was an enormous sum, and the ailing Soviet economy did not have alternatives to replace the export of oil and gas.

On November 10, 1982, Leonid Brezhnev died of heart attack. By the time he died, the Soviet oil industry appeared to have contained the threat of declining oil output. Production still rose steadily, if far more slowly than in the 1970s. Yet the

appearance of stabilization was deceptive. The oil industry owed its growth mainly to the continuing transfer of development drilling capacity to West Siberia.

Yuri Andropov emerged as Brezhnev's successor. In his opening speech as the secretary general in November 1982, Andropov indicated that he considered fuel switching and conservation to be priorities on the energy agenda. The emergency response in 1977 had avoided a decline in oil output, and the gas initiative stabilized the share of hydrocarbons in the Soviet energy balance. Yet a policy dependent on supply condemned the energy industry to absorb an increasing amount of resources, while the costs of operations were rising more than ever.

Andropov's commitment to the gradual reorientation of Soviet energy policy towards conservation and the efficient utilization of alternate energy resources, specifically natural gas and nuclear power, was underscored by a noticeable and planned reduction in the level of investment in the oil sector. In the early 1980s, it was becoming already apparent to Soviet energy experts that conserving a standard ton of energy cost one-third of what it took to produce the same value of energy (Melentev & Makarov, 1983). The worsening cost structure of fuel production, the growing share and importance of nuclear energy and other changing energy conditions pressed for a new energy program. The Politburo approved a draft of a long-term energy policy in April 1983. The draft proposed cutting investments in the oil and gas sector and prioritized efforts to conserve energy. However, Andropov's policy of fiscal strictness for the oil industry came at the worst possible moment, as the oil industry was about to enter a period of further crisis (Kuhnert, 1991).

Andropov's commitment to energy conservation and changing the fuel balance continued under Gorbachev, who assumed power and announced his proposal for radical economic reform to the 27th party congress on 25 February 1986. Gorbachev aimed at the machinery sector's becoming the major object of Soviet investment, while the share of capital spending on extractive industries was to be stabilized. Another aim of Gorbachev's plan was to decentralize the planning process, allowing enterprises to decide on their own needs and be guided by economic, rather than quantitative, considerations. In 1987, the Supreme Soviet and Central Committee approved the economic reform package, and the basic provisions for fundamental *perestroika* of economic management were adopted (Kuhnert, 1991).

Gorbachev's determination to prioritize the machinery sector as well as emphasize conservation and improve the living conditions of the oil industry workers in Siberia were measures that reflected the absolute requirement to increase the oil supplies. Also, the rise of oil production costs pushed Gorbachev to call for a massive reorientation of capital toward conservation, not only of energy but also of all natural resources. (Gooding, 1992) Further, the new economic plan preferred modernization and reconstruction of existing plants rather than new enterprises.

The energy sector was the backbone of Gorbachev's restructuring process, because by the time he assumed power, virtually every economic sector came to depend on the oil and gas sector's performance. In a way, the future of *perestroika* rested on the reform of the oil and gas sector (Kuhnert, 1991). However, the events of 1985

immediately tested whether Gorbachev was willing to take energy-switching and conservation further than mere rhetoric.

The cold winter of 1985 obstructed the normal course of oil extraction, while concurrently boosting the domestic demand for heating. The situation resulted in a sharp drop of the volume of oil available for export. To further complicate the matter, after a steady rise in the first half of the 1980s, international oil prices started to decline as a result of solid production increases by the OPEC. In particular, Saudi Arabia had moved to recapture markets through a price war, driving the price of crude oil down to as low as $13.64 per barrel in 1986, compared to $28 per barrel in 1984 (Parra, 2004).

Figure 9

Crude Oil Prices and Production Rates by OPEC

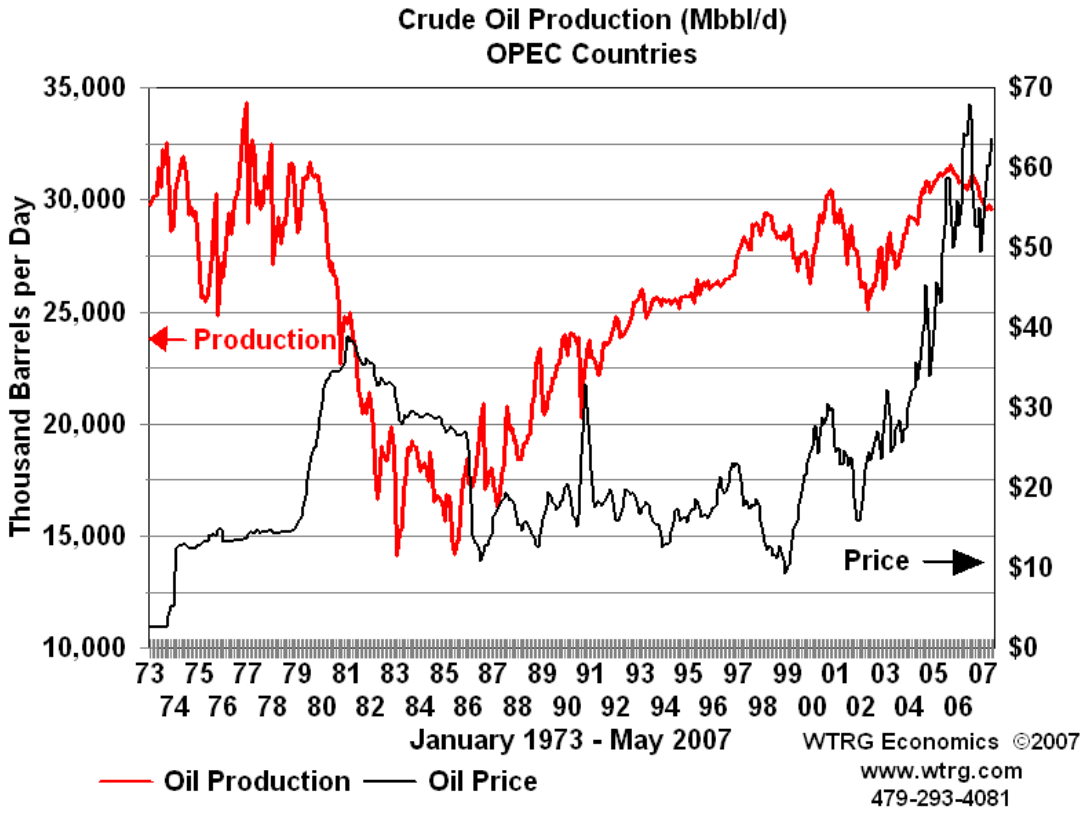


Figure 9: Crude Oil Prices and Production Rates by OPEC

Note: From WTRG Economics web site

In one sense, the timeline of the collapse of the Soviet Union can be traced to September 13, 1985. On this date, Sheikh Ahmed Zaki Yamani, the minister of oil of Saudi Arabia, declared that the monarchy had decided to alter its oil policy radically. The Saudis stopped protecting oil prices, and Saudi Arabia quickly regained its share in the world market. During the next six months, oil production in Saudi Arabia increased fourfold, while oil prices collapsed by approximately the same amount in real terms.

One of the biggest blunders of the Soviet leadership was to spend a significant amount of additional oil revenues in the 1970s to start the war in Afghanistan and to

continue to subsidise the Eastern Europe.(Bialer, 1986) The war radically changed the geopolitical situation in the Middle East. In 1974, Saudi Arabia had decided to impose an embargo on oil supplies to the United States. Yet, by 1979 the Saudis became interested in American protection because they understood that the Soviet invasion of Afghanistan was a first step toward--or at least an attempt to gain--control over the Middle East.

Increasing the cost of sustaining the Cold War for the Soviet Union was also part of the Reagan administration's policy. Reagan's administration provided substantial financial and weapon support to the Afghan mujaheedin. The hand deployed surface to air attack missiles fundamentally changed the course of Soviet-Afghan war. Reagan, based on various CIA reports (1977) also understood the integral function of the oil and gas revenues to the Soviet Union. Hence, a policy of pressuring European Community to consume less Soviet oil and gas was initiated. Reagan was pivotal in convincing the Saudis in a price war against the Soviets. (Schweizer, 1996) Another central instrument for putting pressure on the Soviet Union was Reagan's massive defense build-up, which raised defense spending from $134 billion in 1980 to $253 billion in 1989. This raised American defense spending to 7 percent of GDP, dramatically increasing the federal deficit. Yet in its efforts to keep up with the American defense build-up, the Soviet Union was compelled in the first half of the 1980s to raise the share of its defense spending from 22 percent to 27 percent of GDP, while it froze the production of civilian goods at 1980 levels.

As a result, the Soviet Union lost approximately $20 billion per year, money without which the country simply could not survive. The Soviet leadership was confronted with a difficult decision on how to adjust. There were three options--or a combination of three options--available to the Soviet leadership.

First, dissolve the Eastern European empire and effectively stop barter trade in oil and gas with the Socialist bloc countries, and start charging hard currency for the hydrocarbons.(Gaidar, 2007) This choice, however, involved convincing the Soviet leadership in 1985 to negate completely the results of World War II. In reality, the leader who proposed this idea at the CPSU Central Committee meeting at that time risked losing his position as Secretary General. This option gradually forced its way towards the end of the 1980s.

Second, drastically reduce Soviet food imports by $20 billion, the amount the Soviet Union lost when oil prices collapsed. In practical terms, this option meant the introduction of food rationing at rates similar to those used during World War II. The Soviet leadership understood the consequences: the Soviet system would not survive for even one month. This idea was never seriously discussed.(Gaidar, 2007)

Third, implement radical cuts in the military-industrial complex. With this option, however, the Soviet leadership risked serious conflict with regional and industrial elites, since a large number of Soviet cities depended solely on the military-industrial complex. This choice was also never seriously considered. However, in the second half of the 1980s, the Soviet Union started gradually cutting on the military expenditures.

After the mid-1980s, the Soviet balance of payments came to depend heavily on the hard currency earnings from oil exports. Out of 193.5 million tons of oil and oil products exported by the Soviet Union in 1985, only 80.7 million tons were to the hard currency (or the so-called dollar) zone (Slavkina, 2002). The plummeting prices resulted in one important consequence: the Soviet terms of trade worsened. In order to maintain the trade balance and continue investments, the Soviet Union had to export larger quantities of oil supplies. Yet the basic principles of economics were at work; too much supply of Soviet crude further depressed the prices offered (Ebel, 1994).

As a significant portion of the Soviet crude oil reserves were already spared for the barter trade with the CMEA nations, the tradable volumes had to be sold on the international spot market for lower prices. Toward the end of the 1990s, the dilemma of political cohesion versus hard currency requirements exacerbated problems for Soviet experts (Poznanski, 1988). The table below shows the relationship between the falling prices and diversion of crude oil from the Eastern Europe.

Table 18

Soviet Oil Exports to the Industrialized West and Eastern Europe

Year	Soviet Oil Exports to	Soviet Oil Exports to the	World Oil Price Arabian Light	Value of Soviet Oil Exports to the

	Eastern Europe (in millions of tons)	West (OECD) (in millions of tons)	Crude Average Spot Market Price ($US)	OECD Nations (in Millions of $US)
1980	80.89	57.0	35.69	14,157
1981	80.13	53.5	34.30	14,066
1982	74.79	69.0	31.76	16,592
1983	72.93	77.9	28.80	17,522
1984	73.70	81.4	28.08	16,596
1985	75.04	67.5	25.02	12,692
1986	81.10	77.9	13.64	7,888
1987	79.90	83.8	17.28	11,214
1988	77.41	95.3	13.43	10,537
1989	56.39	78.4	16.35	10,613
1990	43.36	n/a	21.54	n/a

Note. From Gustafson, Thane. 1981. "Energy and the Soviet Bloc," *International Security* 6(3): 72.

Gorbachev, who six months earlier had hinted that he would strive to reduce the burden of energy investment and liberate resources for a vast restructuring of the economy, now faced essentially the same problem as Brezhnev. He also responded in the same way: invest in Tyumen to boost the oil and gas production.

The measures employed were also similar. He paid a personal visit to the oil fields, initiating a massive oil and gas campaign (Christensen, 1999). There was an attempt to revive the growing number of idle wells primarily by flying an ever-larger number of well-repair and drilling crews to West Siberia. The intense pressure from Moscow, and additional investment funds achieved a substantial improvement in oil field equipment, electrical supplies and electricity and even housing (Gustafson, 1989).

Crude oil production peaked at around 616 million tons (12.38 mmb/d) in 1983, gradually falling to 595.3 million tons in 1985. The recovery and subsequent peak of oil

production in 1986 were achieved basically through human factor. However, the prospects for the oil industry did not shine bright. Oil and gas production figures are shown in the below table.

The growing burden of well maintenance, repair work and rising crude oil producing costs continued to place a formidable strain over the Gosplan budget. The average, as well as the marginal, costs of production continued to increase, from 13.68 ruble per ton in 1985 to 17.12 in 1988, to 21.13 rubles per ton in 1990. The possibility of channelling sources to the civilian machinery industry faded away with the rising tensions of the Cold War (Considine & Kerr, 2002).

In the 12th Five-Year Plan (1985-1990), Soviet planners targeted a 22% increase in the national income, while domestic energy consumption was expected to increase by 12%. This required an overly-ambitious conservation program. In the last Five-Year Plan, the energy sector received a 35% increase in investment while the total energy output was projected to increase by 24% (Considine & Kerr, 2002).

Table 19

Energy Targets for the 12th Five-Year Plan, 1985-90

	1985 Actual	1990 Draft Targets	1990 Final Targets
Oil (million tons)	595	630-640	635
Gas (billion cubic meters)	643	835-850	850

Coal (million tons)	726	780-800	795
Electricity (Bkw-hr)	1,544	1,840-1,880	1,860
Hydropower (Bkw-hr)	215	n/a	245
Nuclear (Bkw-hr)	167	390	390

Note. From Gustafson, Thane. 1981. "Energy and the Soviet Bloc," *International Security* 6(3): 72.

The level of hard currency earnings from oil exports waned throughout the second half of the 1980s. The share of oil and gas hard currency earnings declined from 80% in 1981 to 34% in 1988. The USSR incurred current account deficits in 1985, 1986 and 1988. The current account deficit reached unimaginable levels in 1989, and the USSR started diverting crude oil exports from CMEA nations to hard currency payers in an attempt to balance the deficit. This gave Soviet policymakers less room to maneuver than they would have liked, and the pressure for radical reform strengthened. In June 1990, the Soviet Union announced its intention to stop all subsidized trade with the CMEA (Hanson, 1980).

Unable to realize any of the above solutions, the Soviet Union started to borrow money from abroad while its international credit rating was still strong. It borrowed heavily from 1985 to 1988, but in 1989 the Soviet economy stalled completely. In 1985 the idea that the Soviet Union would begin bargaining for money in exchange for political concessions was unimaginable to the Soviet leadership. In 1989 it became a reality, and Gorbachev understood the need for at least $100 billion from the West to prop up the oil-dependent Soviet economy. The chairman of the State Planning

Committee Yury Maslyukov in one of the meetings even said to have commented: “If there is no oil, there is no more a national economy”. (Gaidar, 2006)

In addition, the Soviet population, encouraged by the *glasnost* policies, started voicing concern over environmental pollution, nuclear power plants and huge water reservoirs. The workforce, which was compelled to bear with the terrible working conditions in Siberia, complained in an increasingly loud tone (Hewett & Winston, 1991).

Gorbachev’s efforts to reform the Communist system offered promise, but ultimately proved uncontrollable, resulting in a cascade of events that eventually concluded with the dissolution of the Soviet Union. Initially intended as tools to bolster the Soviet economy, the policies of *perestroika* and *glasnost* soon led to the collapse of the whole system. The new economic and political transparency created even greater economic inefficiency due to the double direction of these policies. Some segments of the economy were freed, such as wages, while other segments of the economy were still being planned or regulated, namely prices (Hewett & Winston, 1991).

The oil sector, which had possibly peaked, and the gas sector, which experienced a sudden boom, both would face a new era. At the same time, the pressure of demand on the sectors would ease and investment budgets would be cut severely.

CHAPTER 4

YELTSIN AND THE TRANSFORMATION OF THE RUSSIAN OIL AND GAS SECTOR: THE BUST

4.1. Introduction

At the turn of the 1990s, there was no reason to be positive about Russia's prospects. The domestic political and economic situation pointed to an overall failure of the state apparatus. Following the disintegration of the Soviet Union, all constitutive elements of the national economy, namely industry, agriculture and natural resources started a free fall. By mid-1990s, the GDP of the Russian Federation stood around a fraction of that of the Soviet Union in 1991.

Politically, the power struggle between the communist establishment and the reformers culminated in a coup attempt which was repelled by Boris Yeltsin and his

supporters. However, the tension between the Soviet apparatchik and the new Russian reformist elite remained visible in every aspect of the political scene. The Duma, dominated by the Communist Party, acted as a powerful check against the powers of the presidency. The possibility of a communist reaction heavily influenced many political decisions and choices. Another dimension of power struggle was between the central authority and the federal constituencies. Towards the end of the 1990s, the Russian Federation came the brink of a federal collapse with open war with going on in the break away republic Chechnya.

Through out the 1990s, the Russian foreign policy had to adjust itself to the significant shift in its material capabilities not to mention the new geographic realities after the Soviet Union gave birth to new independent states. Although Russian Federation was still a major nuclear power and a member of the UN Security Council, its super-power status was lost. It did not possess the economic capacity to mobilise and effectively utilise these military and diplomatic assets. However, in the emerging international order, where the US was left as the sole super-power, spheres of influence were created more by economic and socio-cultural strength than sheer military power.

The Russian foreign policy in the first half of the 1990s was surprisingly cooperative with the West. So much that for Russian diplomacy preserving relations with the West almost became a key priority. Immediately following the dissolution of the Soviet Union, Yeltsin even openly declared that the US was not considered as an adversary country. Russia sought and widely used Western financial assistance. Indeed cooperation with wealthy western democracies and multilateral organizations, e.g. the

G7 and IMF was crucial for economic reasons. The Russian economy needed the external support and there were no other alternatives to seeking financial aid from the EU and the US. Russian-Western cooperation was also crucial in terms of the European and global security architecture.

Yeltsin's biggest trouble was to solve the dilemma of protecting Russia's interests defined as potentially clashing with the interests of the West but at the same time securing firm connections to the EU and the US for access to credits. It was most evident when the US-lead NATO started expanding its power towards the newly independent states of Eastern Europe. For Russia, it has been one of attempting to balance potentially competing objectives of primacy within the CIS area and the trappings of great power status further afield versus the cultivation of Russia's ties with the G-7 states, collectively as well as individually.

It is a curious question to speculate whether it would have been different for Russian foreign policy if the oil and gas prices were around today's level. How Russia would have gone through the transition period, if the economy was awash with sufficient capital in the 1990s. Would Yeltsin still have undertaken the privatisations and would there be oligarchs?

In this respect, what makes 1990s distinctive for the Russian economy was the sharp fall in the prices of the oil and natural gas as well as other minerals and metals in the international markets. As it can be observed from the chart below, the downward trend for oil prices which started in mid 1980s, continued through out the 1990s.

Figure 10

International Oil Prices 1970-2007

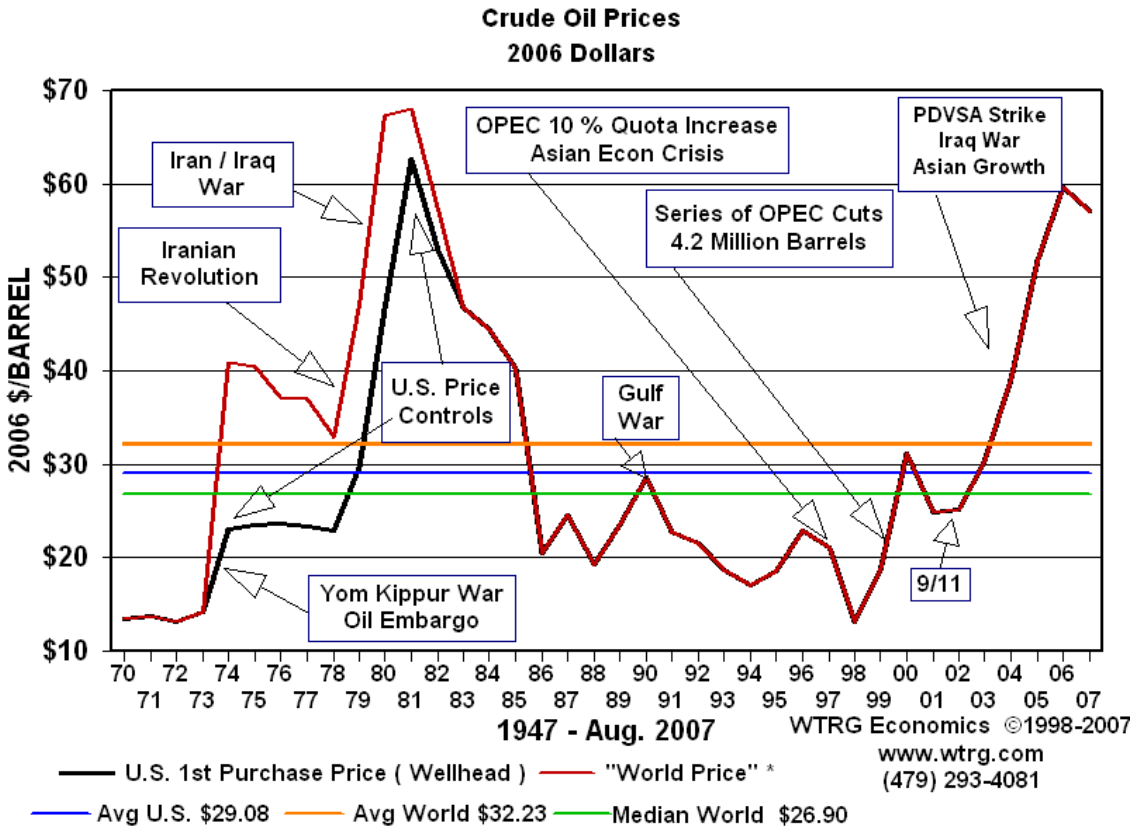


Figure 10: International Oil Prices 1970-2007

Note: From WTRG Economics web site

The price of natural gas, which is calculated a derivative of the oil price, followed the same trend.

Figure 11

International Natural Gas Prices 1970-2005

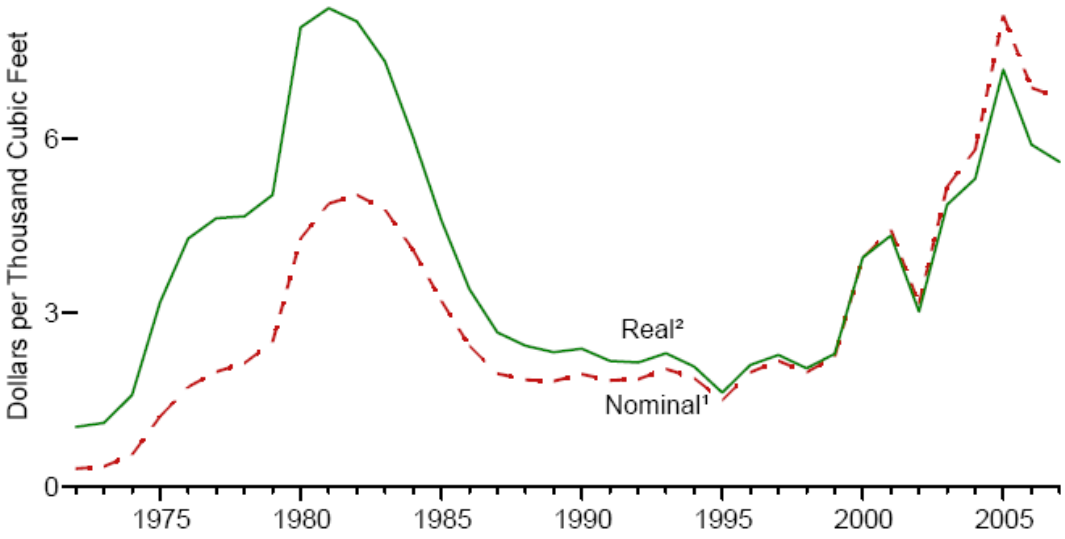


Figure 11: International Natural Gas Prices 1970-2005

Note: From International Energy Administration web site

The loss of oil and gas revenues came at the worst moment for the Russian economy. The cash starved economy did not have many other alternatives to generate hard currency revenues other than these exports. And the economy badly needed to earn cash to relieve the budget strain and the ailing financial system.

To make matters worse, the oil production started a nose dive as because there was no money around to support the industry's field operations. Due to its uncompetitive structure, Russian industry was not able to substitute for the revenue losses by increasing exports in other products. The general industrial collapse allowed more oil to be allocated for exports, but to no avail as the international oil prices

plummeted. A combination of low production, low international oil and gas prices was heralding a decade of turmoil for Russian Federation.

In order to understand the extent of this turmoil, this chapter notes some important aspects of the transformation of the political and economic context in Russian Federation and their impact on the Russian oil and gas industry. The new ownership structure that resulted after the privatisations is also crucial to understand as those results have become integral to the political developments following Yeltsin's presidency. The privatisation deals may have been done differently, had the oil prices been higher. Also the chapter analyses the adverse effects of many other regulations such as taxation, exports, prices and foreign investment on the development of the oil and gas industry.

4.2. The Transformation of Russia's Economic and Political Context

The Soviet Union disintegrated in December 1991 without much violence or bloodshed. The rapidity of the collapse, the relatively peaceful geographical disintegration and the smoothness in the transfer of power surprised many scholars of international relations.

None of the mainstream theories of the international relations recognized beforehand the possibility of such a momentous change. There was little or no debate about the underlying causes of systemic change, the possibility that the Cold War could be peacefully resolved, or the likely consequences of the Soviet Union's visible economic decline. The scholars of international relations did not recognise the possibility that the kind of change that did occur could occur.

Few expected any major change in Eastern Europe even after the Soviet Union's foreign policy had undergone radical changes and was trying to adjust to the economic difficulties of maintaining such a vast empire. Most analyses of the end of the East-West conflict focussed on the high profile issues such as arms reductions or perestroika of Mikhail Gorbachev. This is understandable to a certain extent because Gorbachev's attempt to reform the Soviet system, acquiescence to political change in Eastern Europe, and commitment to disarmament were the catalysts of such an accommodation. (Risse-Kappen and Lebow, 1996) Yet, major visible changes took place in Cold War relations long before Gorbachev came to power in 1985. The Soviet economy was decaying over the last decade and a half.

Although the immediate effect of the Soviet collapse on the international arena was relatively calm, the first decade of the Russian Federation was chaotic. The era was marked by severe political power struggles, disunity among the elites, the problems of federalism, difficulties regarding economic transition, privatization, corruption, criminalization and issues associated with the fundamental political and economic changes that were taking place (Phillips, 2000). The collapse also fundamentally changed the economic and political context in which the Russian oil and gas industry was operating.

The most striking aspect of the initial years of Russia's transition to democratic capitalism was the lack of a state apparatus – a stable institutional structure operating in a solid regulatory framework. In fact, the primary goal of the political and economic transition was to dispose of the Soviet-era paternalistic state. Establishing a market

economy required increased engagement from economic actors other than the Russian state, which at that point possessed of nearly all of the country's important economic assets. Initially, a deliberate policy of weakening the state allowed the market forces the ability to increase in scope (Kuznetsova & Kuznetsova, 2003).

The first president of the Russian Federation, Boris Yeltsin, was acutely aware that the window of opportunity for political and economic reform could only remain open for a short time. Therefore, he sought to spur the decision to dismantle the roots of communism. Yeltsin, acting as prime minister, enacted the economic reform program on January 2, 1992 (Lysubsky, 1994).

The economic reform program adopted by Yeltsin was ambitious and had two fundamental goals: economic restructuring and macroeconomic stabilization (Ulyukaev, 1995). Macroeconomic stabilization required implementing tight fiscal and monetary policies that supported economic growth through inflation control and the control of exchange rates. Economic restructuring was the harder part of the task, as it required establishing a fiscal and operational framework via legal and regulatory tools. The most important steps to reaching these goals included opening domestic markets to foreign trade and investment, which linked the economy to the rest of the world, achieving privatization and forming a robust financial system (Hedlund, 2001).

The reform program was called 'shock therapy' because of its aim to deliver a heavy blow to the remnants of the communist economic system. Yeltsin was aware that a gradual transition program in Russia risked strong political reaction. Therefore, he aimed to overturn the whole political and economic system at once and irreversibly. His

prime minister and chief economist, Yegor Gaidar, knew that there was a price for such a fast track reform program, but the threat of a communist backlash was real (Hoffman, 2003).

Soon after the introduction of the reform package, prices skyrocketed, government spending was slashed and heavy new taxes were introduced.[18] Inflation wiped out most of the population's savings in short order. The evaporation of savings had a disastrous impact on investment. Many industries, including the oil and gas sector, were drained of investment funds and had to cease operations. The Russian economy passed through a long and wrenching period of depression. According to the official Russian economic statistics from 1990 to the end of 1995, the Russian GDP declined by roughly 50%. There were dramatic falls in industrial and agricultural production (Klugman, 1995).

Another immediate result of the 1992 price and trade reform was an acute cash starvation, which occurred because of two reasons. First, the liberalization of the foreign trade regime paved the way for capital flights, which averaged $10 billion to $15 billion per annum until 1997 (Tikhomirov, 1997, 2000a). Second, ending foreign currency controls sapped public savings. The capital available for public finance and investment vanished because the Soviet system distributing revenue between different enterprises (sectors) ceased as a result of the privatization program. Mounting internal and external debt, a depreciating ruble and shrinking gold reserves, colossal arrears in tax collection

[18] In 1992, the first year of economic reform, retail prices in Russia increased by 2,520%. A major cause of the increase was the deregulation of most of the prices in January 1992, a step that prompted an average price increase of 245% in that month alone. By 1993 the annual rate had declined to 240%, still a very high figure. In 1994, the annual inflation rate was still 224%.

exacerbated the situation for the already strained financial system. As the capital availability fell, priority in allocation of scarce resources was given to the revenue generating sectors of the economy (Menshikov, 1999).

In the new environment, companies had to rely on their own sources or the financial system for investment capital. The share of public investment in gross capital investment decreased from an average of 90% in the 1980s to an average of 20% in the 1990s. Company contributions to gross capital investment increased dramatically, from 3% in the 1980s to almost 70% in the 1990s (Tikhomirov, 2000a). Approximately 58% of capital expenditure in the oil, gas and electricity sectors was centrally financed in 1990. In 1994, this figure was only 1%. As suggested in the table below, the share of energy sector in productive investment (excluding social investments) rose from 17% in 1990, to approximately 44% in 1994. In constant terms, this was 38% of the level in 1990. (Joint Committee for Programme Development, 1994)

Table 20

Gross Fixed Investment in the Energy Sector
(excluding social investments)

	1990	1991	1992	1993	1994
Gross Fixed Investment (in billion roubles)					
Oil Extraction	14.1	27.1	410.8	3277	9235
Oil Refining	1.0	1.2	15.0	370	2228
Crude Oil and Product Pipelines	0.9	1.5	30.4	347	631
Gas Extraction and Transport	5.2	8.1	117.7	1195	6680
Coal Production	2.7	5.1	96.6	728.8	2505
Power and Heat Generation	4.6	7.5	182.4	1710	5898
Service Sectors for the Energy Industry	1.6	1.5	5.6	75.2	224
Total Energy	30.0	51.9	858.5	7703	27401
Total Economy	176.6	144.3	1749.0	15042	61000
Share of Energy in Total Productive Investment in %	17.0	36.0	49.1	51.2	44.9
Price Index for Capital Investment	100.0	240.0	3864.0	44822	237559
Index for Gross Fixed Investment in Constant Prices					
Oil Extraction	100	80.1	75.4	51.9	27.6
Oil Refining	100	48.8	38.8	82.5	93.8
Crude Oil and Product Pipelines	100	73.5	92.6	91.1	31.2
Gas Extraction and Transport	100	65.0	58.6	51.3	54.1
Coal Production	100	79.0	93.6	60.9	39.5
Power and Heat Generation	100	68.6	103.5	83.7	54.4
Service Sectors for the Energy Industry	100	39.0	9.1	10.6	6.0
Total Energy	100	72.2	74.2	57.4	38.5
Total Economy (excluding social investments)	100	34.0	25.6	19.0	14.5
Total Economy (including social investments)	100	84.5	51.0	42.8	31.0
Energy Investment Financed by the Federal Budget (in billion roubles)					
Oil Extraction	5.5	4.0	0.9		
Oil Refining	0.2	0.2	0.3	5.1	3.0
Crude Oil and Product Pipelines	0.6	0.3	1.3	6.3	
Gas Extraction and Transport	3.1	0.2			
Coal Production	0.9	1.6	29.1	183.1	193.3
Power and Heat Generation	7.0	10.0	12.0	20.0	40.0
Service Sectors for the Energy Industry	0.1	0.1	1.9	8.6	39.9
Total Energy	17.3	16.0	44.5	218.1	282.5
Share in Total Energy Investment in %	57.6	30.8	5.2	2.8	1.0

Source: Mintopenergo, Goskomstat and IEA Estimates

The decentralization and deregulation of the Soviet economy was accompanied by a restructuring of the taxation system. However, the plethora of new taxes resulted in a radical decrease of the revenue base, as either enterprises stopped paying or tax officials were unable to collect taxes. Central political power and economic development declined, which gave regional officials and enterprise directors more power. They

refused to pay taxes, which further pressured the already-strained financial situation of the central government. Political opposition to the reform program from the Central Bank and the Duma led to weak monetary policies such as disproportionate wage rises, continued state subsidies to unprofitable sectors and belated privatization (Phillips, 2000).

In response to the mounting public reaction, from 1993 onward the post-Soviet Russian governments decided to follow the same economic strategy as the late Soviet government, but from a more limited base of financial resources. Instead of making incomes directly dependent on GDP and labor productivity, Yeltsin, for political reasons, chose to pay people more than they were producing. In order to do that, Russia incurred significant debts during the period (Alexseev, 2001).

Most of the loans, however, were spent on debt servicing and repayment, as well as supporting industry and agriculture. In a sense, the Russian government continued the Soviet economic policy of cross-subsidization. While the Soviets had at their disposal a mechanism to recuperate losses of some enterprises from more profitable enterprises, the Russian government did not have ownership of Russian economy (Tikhomirov, 2000).

The ultimate aim of the Yeltsin regime was to diminish the Soviet ideological and administrative heritage, and complete transition to capitalism at the fastest possible pace. The rapid pace of this transition, however, created problems for the oil and gas sector, along with the rest of the economy. The most challenging difficulties during this period of transformation included, the sale of assets, the control and liberalization of

price structure, the receipt of tax revenues, export capacity and financial difficulties (McFaul, 1996).

Relations with the West as well as with states in the CIS, the amalgamation of weak democratic institutions and Yeltsin's political success allowed a small, well-organized coalition of economic interest groups to occupy a central role in the making of Russian foreign policy. The combination of powerful president, a fragmented party system and impotent countervailing forces representing pluralist interests meant that these economic lobbies dominated policymaking in Russia, including foreign policy (Khripunov & Matthews, 1996).

Most importantly, the political and economic winners in Russia's transition were the very groups that would not benefit from an aggressive international stance. These groups actively pursued foreign policies that avoided international conflict because they were the political and economic actors in Russia that stood to gain the most from peaceful foreign policies. In contrast, those in Russia who may have stood to gain from more belligerent foreign policies were radical communists, extreme nationalists, segments of the armed forces or parts of the military-industrial complex, which had persistently lost in political struggles for state control (Pappe, 1996).

Gazprom, oil companies, mineral exporters and bankers began to replace the Soviet *apparatchik* and became important economic interest groups influencing foreign policy. The impact of these interests was clearly visible in the two significant issues relating to Russian foreign policy in the early 1990s. Russia aimed to integrate with the West and welcomed international assistance. Russian exporters desired access to

Western markets, Russian importers needed Western goods and Russian bankers wanted partnerships with Western capital.

When security issues, such as opposition to NATO expansion, threatened these interests, the coalition of liberals within the Russian government and their allies in Russia's economic society cooperated to sustain engagement. A billion dollars in transfers from the International Monetary Fund to help close the budget deficit was a billion dollars that Gazprom did not have to pay in taxes. A multimillion-dollar World Bank investment in restructuring the Russian coal industry also represented costs avoided by domestic capitalists. Further, with respect to relations with states in the CIS, Russian capitalists used their influence over the Russian state to ensure that the terms of trade remain favorable to local entrepreneurs (McFaul, 1997).

4.3. The Transformation of the Oil and Gas Sector

4.3.1 The New Bureaucratic Structure of the Oil and Gas Sector

Immediately after Gorbachev's official resignation as Secretary General of the Communist Party, Russia began to work establishing a new oil and gas sector for Russia. Governmental bodies were established at three layers: federal ministries, federal service institutions and federal agencies. While the federal ministries were responsible for policymaking, federal services were responsible for supervision if these policies failed. Federal agencies controlled the state property and provided the services to the end users. The presidential administration was also established at three levels: directorates (*upravleniye*), departments (*departmenti*) and administration (*apparati*) (Larsson, 2006).

After the Soviet Union dissolved, it abandoned its oil and gas ministry. In its place, the Ministry of Fuel and Energy (MFE) of Russian Federation was established. MFE did not resemble its Soviet predecessor, as it neither had the sprawling bureaucracy nor any direct control over the production units in the regions. The new ministry consisted of four executive organs, one of which was responsible for regulating the energy sector.

The enterprises (production associations) of the Soviet Union took over the administrative functions of the previous union and republican ministries. The control of productive assets remained with these regional units, which became important actors in the oil industry, as well as regional monopolies, in the early days of the transition. The enterprises, at least for a period of time until privatization, were more or less independent in their management (Lane & Seifulmulukov, 1999).

In 1991, 47 regional oil extraction units voluntarily came together to establish Rosneftegaz, purporting to be a central coordinating body for the oil sector. However, this type of association lacked the required hierarchy, as the management was elected by the participant units and was generally weak and prone to excessive compromise. It was a short-lived attempt, as Rosneftegaz was converted into a joint stock company in 1993, now named as Rosneft. Governmental Resolution No. 357 outlined the role of Rosneft in detail in April 1993. Accordingly a broader mandate to act as Russia's national oil company was foreseen.

Rosneft controlled the state-owned shares in nearly 240 enterprises (some of which were privatized as joint stock companies), including 26 crude oil producers, 22

refineries and 59 product distributors, as well as others involved in gas processing, lubricant manufacturing, drilling, geophysical research, engineering and other oil-related services. Along with the formation of Rosneftegas, many local enterprises asserted autonomy and began to form independent companies (Considine & Kerr, 2002).

The conversion of producing divisions of Soviet Ministry of Oil into private companies in fact started in the last year of the Soviet Union. The first successful example was “LangepasUraiKogalymneft” which was set up by the Resolution of the USSR Council of Ministers No.18 of November 25, 1991. The company later on came to be widely known with its acronym Lukoil. It united on a voluntary basis three oil-producing enterprises - "Langepasneftegaz", "Uraineftegaz" and "Kogalymneftegaz", and three processing enterprises - "Permorgsintez", the Volgograd and Novoufimsk Refineries. Later on Lukoil was re-established as a joint stock company with the Resolution No.229 of April 5, 1993.

Meanwhile, Gazprom, which was established in 1989 as an extract of the Soviet Ministry of the Gas Industry, remained an exception to this tide, preserving its central decision-making powers and unitary hierarchy (Stern, 2005). In July 1989 Secretary General Mikhail Gorbachev merged the ministries for oil and gas as part of his economic reforms, into a single industry, the Ministry of the Oil and Gas Industry of the USSR. A separate Soviet gas industry was again created in the early 1990s, before the break up of the USSR.

In June 1992, Gazprom was declared the national gas company of the Russian state, and a decree issued in February 1993 transformed it into a joint stock company.

Gazprom's equity was sold within Russia during 1994. In accordance with the privatization, 60% of the shares were sold in the following manner: a) 15% went to the 300,000 employees of Gazprom; b) 35% went to the 61 regions covered by the different Gazprom enterprises as privatization vouchers to around 750,000, and (c) 10% was bought by Gazprom itself in the form of privatization vouchers. Nine percent of these shares was to be offered to foreign investors during 1995 privatizations. The remaining 40% the equity remained with the Russian state, representing four chairs in the board of the company.

On January 26, 1993, Rem Viakhirev became the Chairman of the Board of Directors and the Managing Committee. The breakdown of shares ensured that Gazprom remained effectively under the state control. Towards the end of the 1990s, two decrees ensured that foreign presence in the company did not exceed 14% of the shares and 20% of the charter capital.

The limitation of foreign capital in the company prevented growth of a transparent shareholder structure in the company. In 1996, a presidential decree allowed Gazprom chairman to vote 35% of the government's 40% share. Gazprom's involvement in politics was also the subject of significant criticism. It provided Yeltsin with substantial financial support during the 1996 presidential elections. During the 1990s, the political influence of Gazprom increased to a great extent. However, increasing political clout brought with it an opaque structure which came be referred as 'a state within the state'.

In early 1990s, the proven gas reserves of Russia stood around 49 trillion cubic metres (tcm), representing 35% of world reserves. Gazprom produced 95% of the gas and owned all of its high-pressure transmission lines and associated infrastructure.[19] A large number of regional and municipal gas companies carried out gas distribution. The vast of majority of these companies have been privatized, though still operated under the umbrella of the former state distribution company, Rosgazifikatsiya (Kryukov & Moe, 1996).

With respect to the transport of hydrocarbon resources, Glavtransneft (an all-union ministry), which used to manage the pipeline system during the Soviet Union, was transformed into Transneft, a joint stock company in 1993 with 100% state ownership. The Transneft stock company was formed under government resolution No. 810 of 14 August 1993. This resolution named the new company as a successor to the old pipeline association. However, the company was explicitly prohibited from becoming a privately owned corporation.

Similarly, Transnefteprodukt was transformed into a joint-stock company in September 1993 under government resolution No. 871 of 30 August 1993. The Russian Government retained broad powers within the company and the federal government still has a direct representative in the boards of both companies. Transneft is nominally a regulated common carrier that is required to offer equal access and non-discriminatory

[19] The industry currently operates some 140,000 km of high pressure pipelines, 230,000 km of low pressure pipelines, compressor stations with a total capacity of 36.5 million kilowatts, and 31 underground gas storage facilities with a total active working capacity of 40 Bcm. production is highly concentrated in three Siberian associations (*Urengoy, Yamburg* and *Nadym*), plus *Orenburg.* These four associations – basically centering on four fields – comprise 90% of Russian output.

tariffs to all accredited shippers. An independent regulator was established in March 1995 in order to monitor the activities of Transneft. (History of the Transeft, 2007)

The pipeline tariffs at this point were determined by the independent Federal Energy Commission on the basis of every tonne of oil transported per thousand kilometres. The Ministry of Fuel and Energy acted as the broker while the actual export quotas and prices were determined by the oil coordinators, a commission established by the oil companies' representatives to set quarterly prices and quotas for export destinations. (Tariff Policy, 2007)

The disappearance of colossal Soviet bureaucratic establishment also led to a situation where the local governments encountered a number of challenges and opportunities in the management of oil and gas reserves. The power struggle between the regional administrative units and the federal government was another important development. Regional differentiation in post-Soviet Russia took place against the background of a catastrophic decline in the economy as a whole and in manufacturing industry in particular (Glatter, 1999).

The oil and gas rich local jurisdictions struggled among themselves, with the federal government and with the oil and gas companies on a number of significant issues. Those issues ranged from contribution and receipt to the federal budget, direct taxation of natural resources, and their role in production sharing agreements. The political disputes had many determinants. Overall, the disputes further complicated development and transformation of the oil and gas industry during Yeltsin's presidency. The regional intervention regarding the taxes and the production licenses discouraged

many investors, particularly foreign, from engaging in business activities. Moreover, the uncertain legal arrangements provided ample space for corruption. Local leadership became an important means for achieving wealth (Kellison, 1999).

4.3.2. The New Ownership Structure: Privatizations and the Rise of Oligarchs

The aim of privatisations in Russia was to replace the state-administered planning system with private and institutional ownership structure which was expected to increase efficiency and avoid distorted market signals. As discussed in the previous chapter, the central defects of the planning mechanism were its inefficient capital and labour allocation. Privatisation and new regulatory framework based on competition was expected to reform the inherited industrial inertia characterised by horizontal and vertical concentration. (Schusselbauer, 1999).

Moreover, in the framework of a general hardening of budget constraints, privatisation was a source of income for the state budget. Other sources of budget revenue such as taxes and exports of raw materials were greatly diminished. The financial difficulties associated with the downfall in revenues substantially affected the course of development for Russia during the 1990s.

Ideally before the privatization of especially industrial giants, the scheme initiators need to spend some time on necessary financial, organisational and technological restructuring that has to take place in the state-owned industrial sector (Schusselbauer, 1999). There is a certain trade off between the pace of transformation-privatisation and social costs of transformation. Rapid and radical reform provides

higher allocated efficiency gains (efficiency gains through radical adjustment), but also results in higher transformation costs. In this case, financial compensation has to be borne by the public financial system and is a threat to fiscal stabilization (Vagliasindi & Vagliasindi, 2003). In the case of Russian privatisations, the political circumstances seem to have drawn the reformers to a corner and forced an alleged urgent agenda for privatisation at any cost (Hoffman, 2003).

The task of privatising the Russian enterprises was given to Anatoly Chubais who unveiled his plan in 1992 in line with the general reform strategy. In the later years, the name of Anatoly Chubais became associated with the process of privatization, as the later clash and resignations in the State Property Committee [*Goskomimushchestvo*] were simply labeled as those on Chubais's club, ("V privatizatsionnykh," 1995) while his name often appeared in case of appeals to the Supreme Court on matters related to privatization ("Isk k pravitel'stvu Rossii," 1995).

The ultimate goal Chubais sought was to sow the seeds of competition and destroy the foundations of the Soviet system by changing the ownership of companies from state to the private initiative (Appel 1997). For purely practical reasons, the privatisation programme started by distributing all minor businesses, such as shops and restaurants, which were sold or in some cases simply handed over to the employees. This was known as the small privatisation and it was implemented in a fairly similar way in all the former socialist countries ("Isk k pravitel'stvu Rossii," 1995).

Anatoly Chubais used vouchers to distribute property quickly and to win public support, but did not structure the programme to create a widespread distribution of

property ownership in the long run, nor to establish a system of employee ownership. One of these measures, attributed to Chubais was the well advertised promise that each Russian citizen would receive a voucher that could be exchanged for Volga cars ("Privatizatsiia," 1992). These vouchers, however, were often sold for a next to nothing or a bottle of vodka ("Butylka vodki," 2007).

Chubais's team believed that a wide distribution programme, even if economically problematic, would be beneficial in the short term. Then, once public support for the programme was mobilised and the rights to property were transferred to a wide range of private owners, the process would be irreversible and a more efficient structure of ownership could later be developed through the workings of the market (Chubais, 1999).

The real trouble started with the large enterprises, some of which had tens of thousands of employees. Here, the idea was to undertake a mass privatisation, via a combination of sales and a free distribution of shares. The specific plan for the oil sector foresaw formation of a number of vertically integrated holding companies[20], along the lines of the international giants of oil industry. In the gas industry, Gazprom was to remain under partial state ownership ensuring full control (McFaul, 1996).

The principal actors in the privatisation process were the central government, the leaders of local jurisdictions, financial institutions, and the executive management of the oil companies. The general rules for privatisation of the oil complex were laid down in

[20]Vertically integrated companies formed by governmental decree, successors of the former state enterprises organised in production associations include the following: Lukoil, Yukos, Surgutneftegas, Sidanko, Slavneft, Rosneft, Sibneft, Tiumenskaia Neftianaia Kompania, Vostochaia, Neftianaia Kompania, Onako, Komitek, Tatneft. This sector accounts for 93% of the oil production in Russia as of 2005.

presidential decree no. 1403, issued on November 17, 1992. This decree, which among other things envisaged the division of assets between subsidiaries and holding companies, (Blasi, Kroumova & Kruse, 1997) stipulated the transformation of the state oil companies, research centres and oil-processing plants into joint-stock companies [Article 1], set the share (40 percent) of the capital of the oil companies to be sold out at investment sells [Article 5b], set a share of the capital (38 percent) as the state property for a period of three years [Article 5a], while the remaining share to be sold out for the investment vouchers [Article 5v]. While privatisation was the prime goal, the idea was to keep at least 45 to 51% of the voting shares with the government in order to ensure the flow of accrued profits as well as to keep a large public stake in the ownership of strategic industrial assets. For the subsidiaries, the stock was divided into two parts. 25% was composed of preference shares that did not give its holder any voting rights. These were to be distributed free of charge among the employees of the enterprises. (Ukaz Prezidenta, 1992)

The remainder, the ordinary voting shares, were to be divided as follows. 38% was placed with the holding company with an objective to give the controlling stake of 50.7%. Ten percent was offered for sale at advantageous terms to the workers. Another 5% was sold at advantageous terms to the management of the enterprise. 3.75 % was for sale by check auction to small nationalities of the north and employees of joint stock companies of oil pipeline transport enterprises. Finally, 18.25% was for sale through auctions to other buyers, foreign or local. As a general rule, 51% of the voting shares

were to be held as government property for three years. This meant that the effective government control was to end by the spring of 1996. (Ukaz Prezidenta, 1992)

Under this scheme, enterprise managers with access to capital were favorably placed to ensure effective control. That was exactly what happened and this is the reason why the first round of privatisations came to be known as the Nomenklatura privatisations or the insider buy-outs. According to the official statistics, about 70% of the shares in the average privatised enterprise went straight to insiders, of which 17% ended up in the hands of managers. Out of the remaining 30%, 16% stayed with the property funds. When the first stage of voucher privatisation had been concluded, a total of 16.462 enterprises had taken part in voucher auctions. Shares corresponding, on average to 20% of the total capital had been sold ("Privatizatsiia gospaketa," 2003).

Further, a large proportion of the state elite that governed Russia in 1993 also consisted of people who were at one time the managers of state enterprises. This group formed a power bloc within the new elite, blocking radical reform in favor of a gradualist approach that gave these individuals time to convert their formal authority and social capital into economic assets (Hanley, Yershova & Anderson, 1995).

The primary reason for Yeltsin and Chubais to allow such an insider takeover was the necessity of undertaking the privatisation project at the maximum speed possible. The programme managers were aware of this even stating publicly that if insiders could not be offered attractive terms privatisation was a still born idea (Hoffman, 2003).

However, forms of preferential privatisation which included ownership transfer to insider groups lead to weaker efficiency and failure of the company restructuring progress (Schusselbauer, 1999). Russia was no exception to this rule. The employee-dominated ownership inevitably distanced the companies from market discipline. The wages were increased but usually not paid and investments were curbed in view of capital shortage. Until around 1996, due partly to the lack of competition, many enterprises did not even have enough working capital to pay the wages and taxes on time, and traded with one another using barter. Upgrading the industrial base and modernising were not a priority (McFaul, 1997).

As a result, the 1993 Russian privatisation had two major results: ownership in the privatised small enterprises was concentrated in the hands of their old management, and the enterprises that did have real economic value remained under state control (Hedlund, 2001). Another major defect of the privatisation was that it failed to bring any significant change in the way Russian companies were managed (Lieberman & Rahuja, 1995). The goal of market discipline that was supposed to be imposed by the widespread ownership of shares in public companies did not materialize. Lastly the privatisation did not raise the necessary finances for the Russian government. In the end, Chubais admitted that the privatization initiatives were disorderly and for the most part, his fault. He did, however, fulfil the promise ("Chubais," 2008) and, as a result, the 500 largest privatized companies in Russia, with an estimated market value of $200 billion, were sold for about $7.2 billion ("K razvitiiu," 2000).

In 1995, fiscal stabilisation appeared to be growing. Inflation fell to around 100%, the budget deficit was reduced to 3% and the printing of money was controlled to around 8% of the budget deficit. Almost the entire budget deficit was financed through external (52%) and internal (41%) borrowing. The principal and interest payments had grown by 500%. Debt servicing constituted the largest item in the Russian budget. The inter-bank credit crisis scheme in August 1995 suddenly led to a fragile financial situation for the Russian government. In order to avoid a financial collapse, the Central Bank had to make voluminous interventions in currency markets that required significant cash resources at its disposal. The government hoped to finance the debt through the intensified privatisation efforts in 1996 ("Indikatory," 1995).

However, the Duma was not supportive of further steps in privatisation of oil companies and the extension of government control was considered a more favorable option. The Governmental decree No. 421 of 12 April 1996 urged all oil-producing companies to revaluate their assets and property under the supervision of government ("O pereotsenke," 2008). This led to a growing confrontation with the Duma that had a negative impact on the privatisation revenues, which remained around 2.5% of the expected revenue in 1995. However, the ever worsening financial conditions and the urgent need for further cash flow in view of the widening budget deficit left the government face to face with consideration of other alternatives (Hoffman, 2003).

One of the alternative proposals came from the Russian banks, which were also in difficult position with regard to their decreasing profitability from regular operations. Russian banks proposed to provide the government with credit in return for security in

federal shares, which were held in the semi-privatised companies. The idea was publicised in a government hearing on March 30, 1995, when Vladimir Potanin, president of Oneximbank, made a speech on behalf of a consortium of commercial banks. The leading Russian banks, including Imperial, Stolichnyi, Menatep, Sberezhenii and Alfa, were eager to provide the government with credit in return for the management rights of the governmental share holding ("Banki predlozhili," 1995).

The Yeltsin government, in urgent need of financing, had few options. The government, in turn, instituted the loans for shares proposal of the commercial banks. Later on in separate interviews Chubais and Potanin justified the loans for shares as necessary to curb the power of nomenklatura management that was in control of the Russian economy. The power of "red directors" (as they were called) blocked any reform attempt to be implemented at the company level. Since the first round of privatisations the Russian enterprises remained as opaque structures (Hoffman, 2003). The management had not changed and the governmental control was simply exchanged for entrenched Soviet era management control.

According to the scheme adopted by the presidential decree on August 31, 1995, Russian investors were to take over parts of the federal shares, through auctions for a specified period, during which the investor had to supply credit to the government. According to the auction regulations (Article 5), the winner of each auction lot was the one who offered the largest amount of credit. If the government failed to pay back the original credit, the banks were to organise privatisation tenders and sell the shares to take back the original loan. The banks were to benefit from organising the privatisation

schemes by drawing commission for their services. However, Potanin's privatisation plan was much grander than anyone foresaw.

Investment tenders were organised for the federal shares exceeding the controlling interest, (which were placed under trust management). The company that won the investment tender was to become the owner of these shares and had to invest the committed amount in a specified period of time ("Bezuderzhnuiu fantaziiu," 1996).

In April 1995, the banks offered the Russian government $872.8 million in exchange for control of the state shares of several companies which included Russia's most profitable companies in oil production, metallurgy, wood processing, and transportation that were privatised during the voucher privatisation stage in 1993 (White, 1995). The winners of the loans for shares scheme paid insignificant sums for acquiring the controlling shares by any standard. In some cases the offered amounts were corresponding to less than two years of the revenues of these companies (Tikhomirov, 2000a).

The term of the trust management of the shares expired a year after, in September 1996. There were two options for the Russian government; either to buy back the federal shares from the trust management or leave them to the ownership of the trust. The financial situation made it clear that there was no possibility to take the first option. Hence the government, in coordination with the Security Council, drafted a joint letter leaving the shares to the trusts but requesting that the shares can be sold on the conditionality that the government is informed beforehand (three months prior) and the

government is represented in the auctions. This time the foreign presence was allowed but limited to the 15% of the total shares in a company (Khartukov, 1997).

Initially, the initiative of the Security Council, as mentioned in the letter of Oleg Lobov, the Secretary of the Security Council, was to restrict the privatization of the military-industrial sector, ("Boris Yel'tsin vernul," 1995) however, in 1996, the Security Council, this time under Aleksandr Lebed', took an even more radical attempt. General Lebed' proposed in his letter to return the state share holdings of the companies at pawn for the credit of the banks, and to postpone the selling out of these shares at an auction and limit the amount at 10-15% of the shares ("Sovet bezopasnosti," 1996).

In the auctions that took place during November-December 1996, Moscow based commercial banks emerged as the only institutions capable of generating the required sums of money (Thornhill, 1997). This was firstly because foreign investors were effectively "ousted" from participation. So there was no real competition for the offer from the international capital market. This competition could have provided a means for the Soviet era management and governmental control of the privatization process to be shifted to the control of international market driven investors.

Secondly, there was no other investor around with appropriate access to financing sources. When Russia did not have a central treasury, the government instituted a controversial decision in 1992 to authorise some banks to act as a depositor of state accounts and disburser of state money.

The system was corrupt at the outset and was abused by the commercial banks to a large degree. The huge sums of money that were deposited in these banks were

effectively kept captive and were not transferred when the state requested. The authorised banking system was the making of most notable oligarchs like Potanin, Smolensky, Khodorkovsky, Gusinsky and Berezovsky through which they have acquired the sufficient capital to come forward with loans for shares deals ("Kommercheskie," 1995).

With this decision, some of the Moscow banks gained an enormous advantage vis-à-vis their competitors as they had significant sums of cheap capital for short term crediting in good terms (Hoffman, 2003). Almost 60% of all financial assets, totalling worth $ 125 billion, in the sector were controlled by 20 banks. Five major banks, namely Sberbank, Vneshtorgbank, Oneksimbank, Inkombank, Menatep, held 40% of the joint capital stock in the banking system (Tikhomirov, 2000a).

The loans-for-shares auctions were controversial not only for their lack of competition but also for the resulting extremely low auction prices. As discussed earlier, the lack of market competition for the bids significantly deteriorated the supposed intended impact of the policy action. The auctions were dominated by two banks, Menatep Bank (Mikhail Khodorovsky) and Oneximbank (Vladimir Potanin), both of which enjoyed close ties to the government. In several instances other participants placed significantly higher bids than Menatep and Oneximbank but were disqualified for reasons such as tardiness or using treasury bills as deposits (Appel, 1997).

One of the crown jewels of the loans for shares auctions was Yukos that was founded as private company in 1993 with Yuganskneftegas at its disposal, the second largest oil producing association in West Siberia. It then acquired Samaraneftegas in

Volga-Ural region and quickly moved into the downstream market. In December 1995, 78% of Yukos' stock (45% as loan for shares and 33% as investment tender) was auctioned with a starting price of $300 million. In addition the winner had to invest another $200 million in the company. Mikhail Khodorkovsky's Menatep, the organiser of the auction, won the tender after making a token increase in the tender price by $9 million. According to the accepted industry accounting standards, this meant that Menatep paid 6 cents per barrel for Yukos at a time when a barrel of untapped oil ranged between $1 and $6 per barrel and the price of Brent crude was $17 a barrel (Grace, 2005).

Boris Berezovsky secured the 51% stake in the ninth largest oil concern in Russia, Sibneft, for $100.9 million. The most interesting feature of this scheme was that Sibneft was created as a vertically integrated oil company via a presidential decree literally the night before the deadline for loans for shares auctions was over. Berezovsky, like Menatep did for Yukos, paid six cents to one untapped barrel of Sibneft when the international price of same barrel of oil ranged between $1 and $6. Vladimir Potanin, founder of Oneximbank, acquired Norilsk Nikel, producing 20% of World's nickel supply, for $ 130 million. Potanin also bought 51% of Sidanco, fourth largest oil concern, for $ 130 million (Grace, 2005).

Upon severe criticism on the whole scheme of this venture, the press secretariat of the Russian President had to distribute the information, that the President Yeltsin signed a decree that forbade the shares of the defence companies to be taken over by the banks ("Aktsii oboronnykh," 1995). Moreover, the purchase of the strategic industries

by the leading banks and investment companies brought in speculations about the primary specific interests of certain banks in certain sectors ("Pishcha bankov," 1995). As a response, the banks were emphasizing their interest in investing and developing the companies they purchased, as Bank Menatep did for Yukos, which according to its head Mikhail Khodorkovsky would be managed by Russian investors only ("Upravliat'," 1995).

The loans for shares deals showed the weakness of government's reform strategy as the money raised following the tenders corresponded to only a portion of the assets that were being offered. The auctions were opaque and organised in such a way that there was usually one bidder who won without any competition. No foreign participation was ensured, not for even smaller bits of shares. The privileged relationship between the government and Russian banks was at display, raising doubts on the legitimacy of these schemes and putting Yeltsin's fairness under severe public scrutiny (Tikhomirov, 2000a).

The whole process of Yeltsin's privatisation scheme was received ambiguously, if not negatively, especially with the appointment of Boris Berezovsky as the Deputy Secretary of the Security Council and who, after his resignation from this post, still retained his membership in the Council. ("Berezovsky ne rasstalia," 1997). Besides, the personal protection of Berezovsky by President Yeltsin, especially in connection with the privatisation of Rosneft was broadly covered in the press ("Boris Yel'tsin ne," 1997).

It could be argued that also the banks hardly had a business plan and strategy when tendering for the federal shares. The prevailing mood was more to exploit the

opportunity and develop better relations with the government. All in all the banks had two main areas of operational interest for taking over the companies. The range and volume of bank services were extended to the oil companies. All accounts of the company were transferred to the bank. The more important aspect, however, was intervention in the management and restructuring of the oil companies. The management of the oil company was changed along with a restructuring of the managerial organisation. Also the subsidiaries as joint stock companies were abolished and single shareholding companies were established (Kryukov & Moe, 1999).

These two types of operational interests were visible in different cases for Lukoil, Yukos, Sidanko, Surgutneftegas, Sibneft and the associated banks. For instance Lukoil and Surgutneftegas founded the investment institutions and used them in taking over the controlling shares of the oil companies. However, the banks did not have a role to play in management and operations of the companies. Another example could be Sibneft, which was founded in 1995 as a part of the strategy that was developed by Boris Berezovsky's Logovaz-United Bank. During the auction Stolichnyi Bank Sberezhni (SBS), for which Sibneft was an important client, acquired the federal shares in connection with the Logovaz-United Bank. In Yukos and Sidanko, the banks which won the auction were those that were in close relationship with the company as creditors and financial advisers. After acquiring the controlling shares Menatep and Oneksimbank started playing important roles in restructuring of Yukos and Sidanco respectively (Kryukov & Moe, 1999).

The development of the alliance between oil company managements (such as Sidanco or Yukos) and the acquiring banks (Oneksimbank or Menatep respectively) followed largely the same pattern. As a first move, the acquiring bank's position in the top management of the company was strengthened. Then, a strict control over the financial flow and production was established by transferring payments and accounts of the oil company to the acquiring bank. During the last stage, the remaining shares of the oil company were further acquired in investment competitions that solidly consolidated the bank's ownership. The final step in the process was integration of the oil company into a financial-industrial group (Kryukov & Moe, 1999).

With the loans for shares auctions, new external owners were introduced. By 1997 the privatisation process illustrated that the ownership of assets shifted from the state to the banks and financial companies, which acquired large holdings working through nominees. The major players in the privatisation stakes have been Russian banks particularly Alfa-Bank (40% of Tiumen Oil), Oneksimbank (85% of Sidanko), Menatep (85% of YuKOS) and SBS/Berezovsky (99% of Sibneft) acting through intermediaries such as Laguna, NFK, Interrosoil, Sins, Rifainoil, Monblan, and FN (Blasi, Kroumova & Kruse, 1997).

Table 21

Percentage Share of the Government Holding

Company	1994	1995	1996	1997
Sidanko	100	85	51	0
Vostsibneftegas	100	85	38	0
Sibneft	---	100	51	0
Yukos	86	53	0.1	0
Surgutneftegas	40.1	40.1	40.1	0
KomiTEK	100	100	92	0-22
LUKoil	42.1	26	16.6	6.6
NORSI-Oil	---	100	85.4	45
Tatneft	46.6	46.6	35.1	20-25
Transneft	100	100	75	51
Rosneft	---	100	100	100
Tiumen Oil	---	100	91	51
Sibur	100	85	85	51
Vostochnaya	100	85	85	51
Slavneft	93.5	92	90.1	56-68
ONAKO	100	85	85	85

Note. From Khartukov, Khartukov, E. 1997. "Incomplete Privatization Mixes Ownership Of Russia's Oil Industry," *Oil and Gas Journal* 93(33): 38.

The loans for shares scheme was the start of Russian banks offering financial assistance to the state in return for certain privileges. After this point, in view of the rising need for financial resources, the involvement and intervention of the banking sector in state policy grew rapidly. In the run up to the 1996 elections, Russian banks openly declared their support for Yeltsin. Yeltsin won the 1996 election on the shoulders of large financial and media support from the oligarchs. This meant that oligarchs influence was to grow to unprecendented degree.

The privatisation deals in the oil industry created significant results for the future political development of the Russian Federation. The loss of strategic assets to a group

of private investors in rigged deals was never digested neither by the entrenched conservative interests nor by the larger population. It was apparent to that a handful of prominent oligarchs came to dominate the financial system, most important industrial holdings and all of the influential media outlets. Aware of this strength, the oligarchs grew insolent.

4.4. Yeltsin's Oil and Gas Policy

The importance of oil and gas sector for the Russian economy was noted by Yeltsin and his team during the early stages of assuming power. In line with the general reform programme, central planning in the oil and gas sector was abolished, prices and trade were, however slowly, liberalised, and fiscal space was created to support the sector which was essentially de-monopolised. Yeltsin, backed by the international community, took all measures, at least on paper, to rejuvenate the oil and gas industry. Despite these attempts at rejuvenation, many factors contributed to one of the most catastrophic periods of the Russian oil and gas industry (Wallander, 1996).

The first stage of the development of an energy policy for Russia in the new economic order was completed in September 1992. In order to elaborate the basic concepts of the energy policy into a national implementation programme, a joint committee was established in accordance with the Council of Ministers' decree [*postanovlenie*] (No: 218, 14 of March 1993). The joint committee, headed by Minister for Fuel and Energy Yuri Shafranik, included the Ministry of Economics, Ministry of

Finance, Ministry of Science, Ministry of Environment, representatives of regional jurisdictions, Russian academy of Sciences (Joint Committee for Programme Development, 1994).

The joint committee finalised a document entitled "The Energy Strategy of Russia" in 1994. In the document the fuel and energy structure was regarded as a vital element of the Russian economy, one of the key factors in safeguarding the vital work of the productive forces. The natural resource potential of Russian Federation was to provide internal and external financial resources required for general economic growth and to raise the quality of life for its citizens ("Joint Committee for Programme Development…", 1994).

The most urgent problem of the oil and gas sector was the investment crisis that led to a sharp fall in capital spending. The investment problems hit the oil sector just as the sector was in need of maintaining the capital intensive field operations. The oil sector lost 50% of its exploitative drilling. Specifically, oil production declined by 100 million tonnes. The gas sector which was already at its peak production levels, managed to preserve its production flat in the 1990s. In order to prevent a future bottleneck in production, new projects (in Yamal peninsula) were necessary ("Neftianoe gosudarstvo," 2005).

In the early 1990s, hyperinflation and high interest rates for borrowing made it impossible to raise financing for capital intensive field development projects. Voucher privatisation left even the most reliable and financially viable enterprises with an influx of share capital. Excessive taxation, non-payments and barter trade, decreasing revenues

from lower oil prices, insufficient export infrastructure were the key problems that hindered the healthy functioning of the energy industry ("Itogi raboty," 1993).

Under these circumstances, the most important challenge facing Yeltsin was to decide on what to do with the looming crisis of the oil and gas industry. The competitive viability of Russian energy resources depended on the ability of companies to adapt to changing market conditions inside Russia and the access to foreign markets. The price controls made it very difficult for the producers to continue production particularly in view of the progressive aging – on average 50% wear and tear – of the machinery stock. Allowing the prices to adjust freely meant a price rise of nearly forty times for a strategic commodity, which was central to industrial production and household heating (Grace, 2005).

Yeltsin opted for the gradualist approach in which prices for oil and gas were to increase incrementally. This decision left the industry in arrears. The desperate state of the Russian economy forced President Yeltsin to 'turn towards investments' [*povernut'sia k investitsiiam*] from abroad, as he mentioned in his appeal to the Russian Federal Assembly in 1995. Another vital aspect of rejuvenating the ailing energy industry from crisis was considered as the privatisation of enterprises ("Den'gi iz-za granitsy," 1995).

In this respect, special emphasis was put on creation of investment funds, which were capable of generating investment capital. In the short term, as it was not realistic to expect a sudden increase in investment capital. Priority was given to maintenance and renovation of the existing production facilities. It was recommended to form joint

ventures with foreign capital to accomplish joint financing to buy new technology (Joint Committee for Programme Development, 1994). By January 1995, 16,063 joint ventures with foreign capital were registered in Russia, although the growth was obstructed after the annulment of privileges and about 40 % of these joint ventures with foreign capital remained inactive ("Joint Committee for Programme Development…", 1994).

Along with the privatization, energy efficiency and conservation were top priority items on the energy agenda. The wasteful and energy intensive Soviet type production was a hurdle to the country's industrial competitiveness in the global markets. An innovation investment program for energy conservation was developed which was administered by the Ministry of Fuel and Energy. The program estimated the potential for savings from gas consumption of around 100 billion cubic meters and the same figure for oil was 65 million tonnes. According to estimates developed by the Institute of Energy Research of the Russian Academy of Sciences, conservation potential in 1995 ranged as high as 40 - 45% of energy consumption ("Joint Committee for Programme Development…", 1994).

The primary solution to address all of these impending problems, according to The Energy Strategy for Russia, was the creation of a regulated market for energy. The state had to establish an effective pricing and taxation policy. The prices for oil and gas were to be determined between survival level and the prevailing world prices. The improvement of legislation and supportive normative acts was considered necessary to regulate the inter-relationship between the subjects of energy market and those of public bodies.

While offering certain preferential advantages to small and medium businesses, the state floated the idea of creating large integrated companies in the energy sector covering various stages of the production, processing and distribution of energy resources, particularly those dealing with oil and gas, which will help the Russian capital to enter the world market ("Reorganizatsiia," 1995).

By implementing these measures, the Russian government intended to recover the gas and oil production to pre-collapse levels by 1997. The goals were to increase refining capacity by 67%, extend the downstream network, and expand the raw materials basis through exploratory efforts in remote areas such as East Siberia, Timon-Pechora, Archangel. The main priority with respect to the production of resources was identified as the production of natural gas and rehabilitation of the gas supply system. The second priority was established as the modernisation and reconstruction of the oil refining industry and switching of oil with gas in electricity production (Joint Committee for Programme Development, 1994).

The external dimension of Yeltsin's oil and gas policy was geared towards changing the structure of Russia's participation on foreign markets and creating the necessary conditions to attract foreign investment that is required for competitive extraction and production capacity. Again an effective pricing and taxation policy, stable legislative basis to set up reliable contractual inter state-company relations, switching from export of primary fuels to processed products were identified as necessary steps for success of the external energy policy ("V ekonomicheskom," 1994).

Yeltsin's early oil and gas strategy was largely in line with the contours of the general reform strategy. It foresaw establishment of a regulatory framework and players in it through large-scale privatisations. The strategy seemed to take into account the heightened profile of oil and gas for the prosperity of Russian citizens. Conservation was promoted. The strategy had the backing of all the important international organisations in identifying the issues and challenges in developing the oil and gas industry. However, it was one thing to have identified the problems as they stand and another to have tackled them. The transformation years made it clear that there was no easy way to become a capitalist state without capital or to become a properly functioning state without institutions.

4.5. Immediate Post-Soviet Era Issues for the Oil and Gas Sector

4.5.1 The Impact of Dissolution

As discussed in the previous chapter, the demand and supply management of the Soviet oil and gas industry was lavishly wasteful. The USSR had reached the world record of 12 m/b per day in oil production in 1987. While oil and gas were provided for free to all, there was no consideration of the balance between producing a barrel of oil and the cost of production of that barrel. At some point, oil and gas production became an end in itself that consumed a disproportionate share of the nation's wealth. This was because of the fundamental role these resources played in keeping the overall economy going. The strategy was also unlikely to survive at lower oil prices even if the Soviet Union had not collapsed. (Grace, 2005).

Primarily oil and to a lesser extent gas exports to the West European countries had become the backbone of the Soviet hard currency revenues towards the end of the 1980s. Thus, for the year 1980, the Soviet exports to the Socialist countries decreased to 54%, while that to the capitalist countries increased to 46% (Kazankova & Sudo, 1998). The revenues from the oil and gas exports constituted 60% of the hard currency earnings, or in absolute numbers, between 1975 and 1989, the Soviet Union earned around 100 billion rubles from the export of oil and oil products with currency rates of that time (Stern, 1997). When the Soviet Union collapsed in 1991, the production of oil and gas stood at 12 million barrels per day (520 million tonnes) and 643 bcm respectively (Kazankova & Sudo, 1998).

The dissolution of the Soviet Union had a colossal impact on the oil and gas sector in many respects. First and foremost, the ceaseless political pressure exerted from the central authority as well as the ever increasing investment budgets to increase production abruptly vanished during the early years of collapse. The primacy of the oil and gas production was relegated particularly during the ensuing political crisis for supremacy (Grace, 2005).

The loss of political pressure on production was exacerbated by the unavailability of capital even to conduct the simplest field works like repair and maintenance. Investments in upstream and midstream activities were brought to a halt with the end of command economy. Remnants of Soviet enterprises started effectively controlling the production. In the new environment, the oil and gas companies had to rely on their market revenues for their operations. As the government fixed oil prices

well below the international levels, export revenues were left as the only source of reliable income, which were also effectively drained by government tax and transportations tariff policies. Oil production turned into a money losing affair unless corruption was involved (Grace, 2005).

Figure 12

Russian Gas Production and Exports

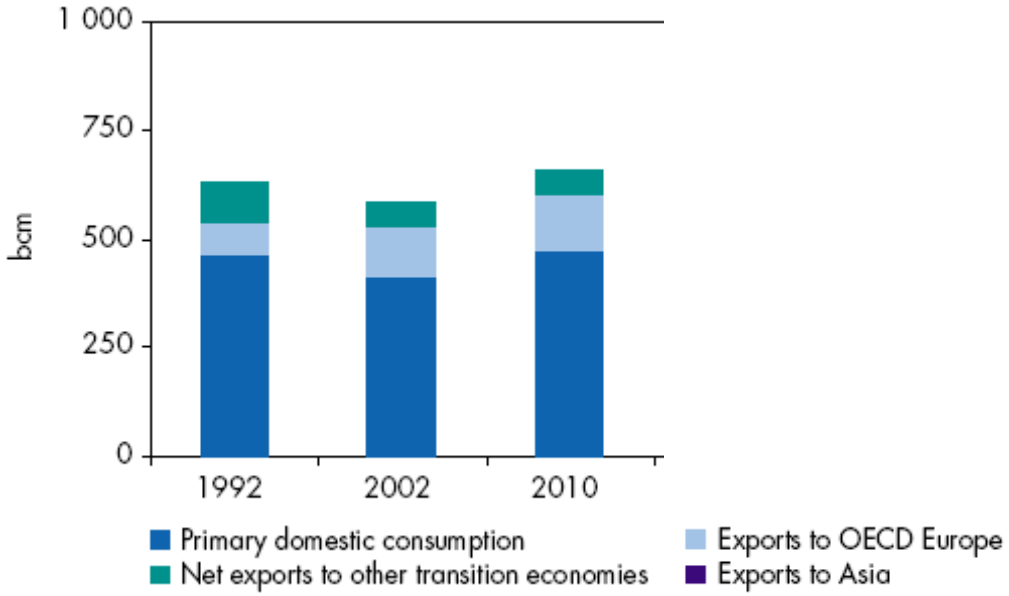


Figure 12: Russian Gas Production and Exports

Note: From Wold Economic Outlook 2004, p.308

Deprived of critical Soviet investment funds, and unable to ratify contracts for Western direct investment, the oil industry suffered from a severe and growing shortage of critical inputs during the initial years of the transformation. This had a devastating

impact on the drilling and repair efforts. While no new long distance pipelines were put into operation, a few pipeline routes closed down.(Considine and Kerr, 2002) Again the lack of investment, in this case would prove detrimental to the future of the production regime.

Figure 13

Russian Oil Production 1992-2007

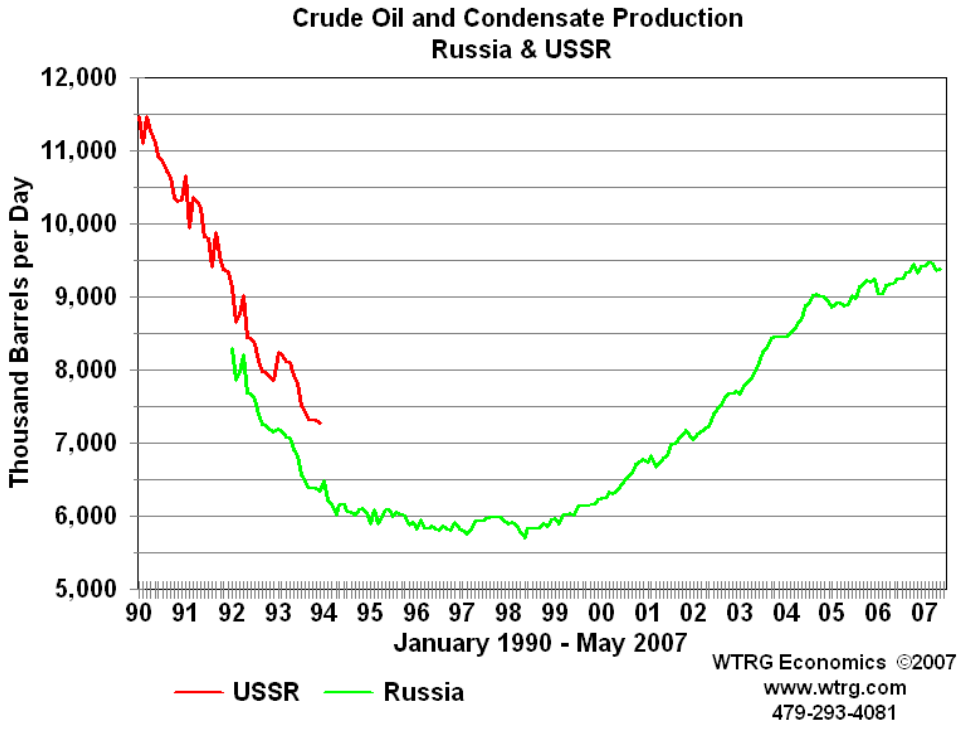


Figure 13: Russian Oil Production 1992-2007

Note: From WTRG Economics Web Site

Deprived of critical Soviet investment funds, and unable to ratify contracts for Western direct investment, the oil industry suffered from a severe and growing shortage

of critical inputs during the initial years of the transformation. This had a devastating impact on the drilling and repair efforts. While no new long distance pipelines were put into operation, a few pipeline routes closed down (Considine & Kerr, 2002). Again the lack of investment, in this case would prove detrimental to the future of the production regime.

According to the official data of the Russian Statistical Yearbook by the Federal State Statistics Service [*Federal'naia sluzhba gosudarstvennoi statistiki*], the budget expenses for the industry, energy and construction sectors, as mentioned in the consolidated budget of the Russian Federation, remained essentially unchanged despite the growing needs ("Raspredelenie dokhodov," 2003).

Producers were forced to curtail investment and operational expenses in view of sharply rising costs and low prices. The result was a significant growth in the number of idle wells, as producers had few resources to allocate for repair and maintenance. New field development and drilling almost stopped. This further diminished the future production capacity, removing the means through which production lost due to natural decline[21] and well failures would normally be replaced. According to estimates provided by Minneftegas the number of well completions fell to 11,091 in 1991, a 30% reduction from the 15859 reported in 1988. The number of idle oil wells soared to 17918 in 1991 and peaked around 29,101 in 1993, almost four times more than the 7707 reported in 1989 ("Main indicators," 2008).

[21] According to the Ministry of Fuel and Energy, reserves in the Volga-Urals region are 68% depleted, 83% depleted in the North Caucasus, 48% in the Komi republic and 40% in West Siberia.

The efforts to arrest this decline were rooted in the stabilization programme initiated in mid-1992. The main goal of the programme was to stabilise oil production drilling at 25 million metres in 1992 and to increase such drilling to 35 million metres by 1995. However, development drilling fell to 20 million metres in 1992, to 11.2 million metres in 1994. In the late 1980s it was estimated that the development of the smaller, lower quality reserves would require five to 10 times more drilling per tonne than the larger fields. The capital investment required per tonne of new capacity doubled between 1970 and 1985, doubling again between 1985 and 1990. When the capital availability fell, year-on-year output inevitably fell by 7% in 1990, 10.5% in 1991, 13.6% in 1992, 11.5% in 1993, and 10.5% in 1994 ("Joint Committee for Programme Development,", 1994).

Another long standing consequence of the Soviet collapse was seen on the structural transformation of the export markets for Russian Federation. There were three main visible results. One of them was the new political map emerging after the break up led to new transit relations as the flow of energy exports started changing its route. Russian exports to international markets beyond the former USSR have steadily increased, while those to former Soviet republics have contracted dramatically as these countries began their economic transition (Winrow, 2004).

Related with this phenomenon, a struggle for more economic and secure export routes was triggered. The competitive struggle not only included Russia but all former Soviet states that were endowed with hydrocarbon riches. The routes that were secure and granted during Soviet times emerged as potential bottlenecks and in some cases

overt security problems for the Russia. Given the fact that the Russian energy complex earned most of its hard currency revenue from exports to Europe, the issue of how to transport gas and oil from their deposits (most of them in Siberia) to Western Europe became a question of enormous importance (Balmaceda, 1998). This issue reduced in importance but only slightly over the better part of the next two decades. Overall, the percentage of Russian oil production exported to the United States grew to about 4.5% during that next period.

Despite those increases, Europe still remained the most significant source of exports. Byelorussia, Ukraine, Baltic States on the immediate Western borders as well as Romania, Hungary, and Poland on the Western routes moved from being constituent republics or orbit states to new jurisdictions to be dealt with. The Baltic oil export terminals of Klaipedia in Lithuania and Ventspil in Latvia became major points of friction. A much larger proportion of the oil exports were directed to Russia's major port on the Black Sea, Novorossiysk. Still, however, easy access to cheap and abundant Russian oil and gas maintained the Russian dominance in energy supplies of the CIS region (Hill, 2003).

One of the best and recurring examples of this new reality was the case of Ukraine, the most important transit country for Russia. In the early days of dissolution, Russian gas sales to Ukraine and the fees paid to it for transit of gas destined for Eastern and Western Europe had to be negotiated and established. The negotiations proved to be rather complex. In the end Ukraine was unable to pay the price agreed with Russia and has amassed debts which by the end of 1994 had become so large that they were

unlikely to be repaid in full. Gazprom proposed to off set the debt by acquiring the Ukrainian gas pipeline and storage assets in return for payment of debt. The deal did not go through but it became crystal clear that evolving political and strategic relationship between Russia and the new Commonwealth of Independent States (CIS) was to remain undiminished. Despite the significant increase in stature of Belarus and Poland as alternative transit countries, there were strict limits to the payment pressure Gazprom could exert on these transit states ("Joint Committee for Programme Development…", 1994).

Faced with this new geographical reality, Russian strategy focused on mitigating the source of transit risk by developing alternative transit strategies and establishing control of objects of the oil and gas infrastructure in the former Union republics. The strategy worked through seizing the assets of oil and gas complex in privatisations or taking over them as compensation for debts emanating from Russian energy deliveries. This strategy created tensions which usually resulted in reciprocal threats of turning off the oil and particularly gas deliveries (Balmaceda, 1998).

The development of general political, economic and strategic relations between Russia and transit countries, and the specific issue of gas and oil commerce between these countries remained the key to the future success of Russian exports. The new transit situation also led to apprehension on the European importers which viewed the security of Russian gas supplies as imperative.

After 1992, Russia effectively used its energy lever for putting political or economic pressure on Estonia, Latvia, Lithuania, Ukraine, Belarus, Moldova, Georgia.

There were dozens of incidents during which energy supplies to a certain state were cut off. The immediate reaons for Russia's coercive policy was to extract political and economic concessions or commandeer infrastructure take over. In most cases Russian demands for payments were legitimate but in some cases political motivations seems to have drawn the action. (Larsson, 2006) For instance, in the winter fo 1992-1993, Yeltsin quadrupled the prices of gas deliveries and then cut-off energy supplies to Estonia, Latvia, and Lithuania after these Baltic countries demanded the removal of Russian troops from their territory. (Smith, 2004) In 1993, when Russia and Ukraine disputed over the nuclear arsenal and the fate of Black Sea Fleet, the gas supply to Ukraine went down by 25%. (Bukkvol, 2001)

The growing role of energy issues was reflected in the energy strategy of Russia'. The strategy document specifically mentioned that "Unlike USSR which used to be the World's largest energy resources exporter and utilised large currency receipts to support its military requirements in a closed economy situation, Russia's export policy will to a maximum degree promote the integration of its domestic economy into a peace oriented economic co-operation" (Joint Committee for Programme Development, 1994, p. 33). It was recognised that "the global character of energy problems and their ever increasing political character, also objectively influential position of the Russian fuel and energy structure in the world energy system are bringing forward the energy factor as one of the main elements on which Russian diplomacy is based upon in its quest to secure a more tangible participation in world affairs" ("Joint Committee for Programme Development…", 1994, p. 35).

This was an accurate recognition that the oil and gas industry was to form the basis of the future Russian diplomacy. More importantly this recognition came at a time when the industry's contribution to the Russian economy was almost at a minimum. In addition, in 1990s, energy security was not on top of the national security agenda of many Western states.

However, Russian motives should be seen in a long term geopolitical and strategic context. Russian Federation utilised its oil and gas policy to underpin the economy, extend political influence and avert geopolitical and macroeconomic threats. Morover, Russia still had strategic priorities to keep its influence over the Commonwealth of Independent States and its energy policy (primarily oil, gas and electricity) turned out to be the most effective tool at its disposal in the post-Cold War context.

4.5.2 Tax Arrangements

In developing a tax system for the oil and gas sector, any government ideally aims at a level of taxation that leaves producers with sufficient incentives and means to reap benefits to carry out investment activity. The taxes also have to be reasonable enough to provide revenues to the federal and regional budgets. The taxation system needs to be stable and predictable which targets profit and not the revenues. Finally, the system has to be simple and workable, avoiding evasion (Oppenheimer & Maslichenko, 2006). The post-Soviet Russian taxation system, until the re-arrangements in 1995, provided the opposite incentives.

During the initial years of the Yeltsin presidency, the Russian government recognised that federal budget revenues relied heavily on foreign debt and taxation of the oil and gas companies. Therefore, oil and gas production, which had the potential to generate economic rent, attracted special rates of taxation (Grace, 2005).

The enterprises, who were long accustomed to paying only token charges for using the centralised assets during the Soviet rule, were suddenly subjected to a plethora of taxes and levies and duties imposed by federal, regional, and local governments and authorities (Ivanenko, 2005).

Royalties on oil production varied between 6 - 16%. An absolute 26 ECU/tonne export tax was introduced which was increased to 44 ECU/tonne by mid 1992. An excise tax was levied as an absolute amount per tonne of oil, and regularly adjusted to the ruble/US dollar exchange rate and to the profitability of individual fields. The implicit excise rate was 20% on average. A geological fee of 10% and various other smaller taxes were levied by federal, regional and local bodies. The excise tax and geological fee were paid into the federal budget, and revenues from royalties were shared between federal, regional and local budgets. The corporate tax was established at 32%. Deductions for Federal Oil Investment Fund were introduced in 1992, which was 28% after deduction of the excise tax ("The Mineral Resource," 2007).

Special-purpose levies included: road users tax (1.54% of products sold); land tax (levied in rubles per hectare); various social payments (tied to wages or the "remuneration fund" – employment fund at 2%, social insurance at 5.4%, pension fund at 28%, medical insurance at 3.6%); transportation tax (1% of the remuneration fund);

educational charges (4.5% of product sold); environmental charges (forests at 0.02%, territorial "cleaning" at 0.5% of the remuneration fund, and various assessments for excess discharges); water fees (0.05% of product sales); vehicle taxes (rubles per horsepower for the entire fleet; a percentage of value for new vehicles); militia tax (3% of the minimum wage multiplied by employment); tax for urban transport (2% of the remuneration fund); advertisement tax (0.005% of product sold); and the fund for support of agriculture (3% of production cost) ("The Mineral Resource," 2007). An example of how the taxes were applied is shown in the table below:

Table 22

Crude Oil Prices, Taxes and Costs (June 1994)
(roubles per tonne)

	Domestic consumption and exports to other FSU	Exports outside the FSU
Refinery input price/export price	**88300**	**214000**
Transport to refinery/export point	10300	12978
Transport currency charge	–	10800
Export agency commission	–	14980
Export tax/duty	–	36000
Domestic wholesale price/net export price	**78000**	**139242**
Excise tax	18720	18720
Suppliers price	**59280**	**120522**
Government funds and charges	21101	23551
of which:		
Royalty	4758	4758
Geology fee	5928	5928
Road users tax	3120	5570
Social payments	1200	1200
Payments to oil investment fund	na	na
Insurance fund	4295	4295
Environment / land / science fund	1800	1800
Production costs (sebestoimost)	40000	40000
Gross profit for crude oil producer	**–1821**	**56971**

Note: In June 1994, 1 US$ = 1805 Roubles
Source: Roskomstat, Mintopenergo

The situation was same for the gas producers, particularly Gazprom. A flat rate excise tax of 25%, and a royalty varying from 6% to 16% was established on the wholesale price of gas including its transport. Gas exports were taxed at (by then) ECU two per thousand cubic metres. The advantage of gas sector was its relatively benign production cost profile that promised to operate for another two decades without much investment in the upstream ("Joint Committee for Programme Development,", 1994).

Although the imposition of taxes was at a wide and creative range, the tax collection efforts were not robust as such and the companies usually declared huge amounts of tax arrears. For example, Gazprom was responsible for half of the country's tax bills but the head of Gazprom was reported to have filed a tax return for 1996 based on a salary of only $8031 (or $2.50 per hour). The measures to cover the tax arrears were more or less limited to bluff and compromise rather than prosecution. The taxes owed to the federal government by the oil sector stood around $ 4.7 billion in 1997 (Gregory & Brooke, 2000).

By the end of 1992, fiscal charges and payments on the oil sector had reached 69% of the ex-field gate wholesale enterprise price. The tax payments to the government effectively eliminated gross profits, forcing the typical domestic enterprise to operate at a loss of approximately 327 rubles per tonne. In 1994 the average profitability of a Russian oil company went down as low as 7% compared to 50% in 1992. The burden of tax on the ex-gate wholesale price stayed around the unsustainable level of 62,5 % in 1994 (Considine & Kerr, 2002).

Starting from 1994, attempts were made to reduce the tax burden on the oil companies. Forbidding the entrepreneurs from profit and investment incentives invited evasion and led to shrinking of the tax base. Particularly production based taxes, which were insensitive to the costs, discouraged the development of high cost fields that otherwise could have produced profitable oil benefiting not only the producer but also the state budget. In early 1995 the Russian government adopted a plan to gradually phase out the export tax and replace it with an increased excise tax, levied on all oil produced in Russia rather than just that part sold abroad (Ivanenko, 2005).

The tax cuts had a slight impact beginning in 1997. The Russian oil companies enlarged the profit margin to an average of 12.5% which also encouraged further production. The minor increase of 1% in oil production volumes was important as it was the first recorded since 1988 (Gaddy & Ickes, 1998).

4.5.3 Price Adjustment

Yeltsin's economic reform had two primary tools for transition to a market economy: establishment of a market pricing mechanism which necessitated gradual elimination of price controls and the attempt to create a solid regulatory foundation for transition to free market economy (McFaul, 1996). In line with this strategy, in January 1992 the government abolished price controls for 90% of wholesale and retail trade.

However, oil and gas prices as well as the prices of some other key sector products like agriculture, precious metals and freight tariffs were held under tight government control. Particularly energy products were considered as strategic

commodities with a social face. The authorities feared that decontrolled energy prices would significantly add to the roaming inflation wave and paralyse the Russian society and industry (Tikhimirov, 2000b).

The administrative price control over the oil and gas industry reached crisis proportions at the end of 1991. The cost of producing a tonne of oil exceeded the contract price imposed by the government. Crude oil prices became unsustainable to continue production. The wholesale prices per tonne of oil rose from 25.7 in 1990 to 65 rubles in 1991. The costs of production increased at a much faster rate, reaching 57.39 rubles in 1991, scoring a 171% increase over the 21.13 rubles of 1990 (Considine & Kerr, 2002).

In September 1992, crude oil prices were also partially liberalised via decree no: 1098. Cost plus profit was to be implemented for the first time on an individual company basis. Accordingly, the wholesale enterprise price was defined as the sum of all production costs, taxes, and a standard 50% profit margin. A price ceiling of 1.5 times the production costs was imposed. The prices, which had been around 2,000 rubles, or 10% of the world market price at that time, increased dramatically. With the liberalisation, refined product pricing became increasingly market determined, and the government's influence in this area was diminished. Virtually all domestic sales started to be negotiated between the buyer and the seller. However, skyrocketing oil prices met with serious consumer resistance in the market (Leitzel, 1997).

In June 1993, a base level, which corresponded to less than quarter of world prices, was established for also industrial gas prices. The prices were then indexed to

inflation monthly. Each month Gazprom submitted its recommendation for price increases based on its service costs. The frequency with which Gazprom submitted recommendations for price increases depended on the speed with which inflation was increasing. Residential gas prices were not indexed to inflation. A new federal entity to regulate prices was set up (Kryukov & Moe, 1996).

The first wave of price liberalization measures, government trying to control the deregulation through out 1991-1992, resulted in appearance of a huge black market. Yeltsin was forced to implement a second wave of liberalization policies by which administrated prices were maintained for a few politically sensitive commodities such as rents, utilities, public transportation and state grain procurements. The liberalization of oil and gas prices was delayed until 1995 due to its crucial impact on the economy (Alexeev & Letizel, 1996).

The tables below shows the development of key wholesale prices over the 1990-1994 period, presented on the basis of yearly averages. When absolute energy price levels in rubles are converted into indices of relative or real prices, their evolution over time can be seen with respect to general inflation, as represented by the producer price index. Average producer price of crude oil at the wellhead by June 1994 had risen to 77,000 rubles per tonne which, the 1994 average exchange rate (about 2,200 rubles per dollar), was about US $35/Mt, or 31% of the world market price. However, the Russian oil industry did not materialise the profits that accrued from the price reform due to the new taxation regime introduced immediately afterwards (Considine & Kerr, 2002).

Table 23

Major Internal Energy Prices
(excluding VAT)

	1990	1991	1992	1993	1994
Absolute Levels, Annual Average in Roubles					
Crude Oil r/mt (wellhead price)	25	69	2572	22628	77000
Gasoline r/mt (wholesale consumer)	195	205	8410	85905	320000
Diesel Fuel r/mt (wholesale consumer)	68	143	5950	75046	250000
Heavy Fuel Oil r/mt (consumer)	34	78	3388	26893	100000
Natural Gas r/thcm (ex-trunk line)	22	45	1195	9008	50000
Steam Coal r/mt (consumer)	12	38	959	8907	37000
Coking Coal r/mt (consumer)	19	70	1852	17795	70000
Electricity r/kwh (wholesale consumers)	0.017	0.03	0.81	11.62	46.00
Heat r/gcal (consumer)	7	15	310	3983	12000
Relative Energy Prices in Index Form in %					
Crude Oil r/mt (wellhead price)	100	115	209	186	154
Gasoline r/mt (wholesale consumer)	100	44	88	90	82
Diesel Fuel r/mt (wholesale consumer)	100	88	178	227	184
Heavy Fuel Oil r/mt (consumer)	100	96	203	162	147
Natural Gas r/thcm (ex-trunk line)	100	85	110	84	114
Steam Coal r/mt (consumer)	100	132	162	152	154
Coking Coal r/mt (consumer)	100	154	198	192	184
Electricity r/kwh (wholesale consumers)	100	74	97	140	135
Heat r/gcal (consumer)	100	89	90	117	86
Producer Price Index	100	240	4920	48708	200000

Sources: Mintopenergo, Centre for Economic Analysis of the Russian Government, Kommersant Publications

In addition to the partial price liberalisation, the government introduced a two tiered pricing system that allowed a quota of 30% of oil production to be sold at free market prices prevailing in the domestic market. Another 10% was earmarked for exporting to the non-CIS countries at the prevailing world prices. The export quotas

were decided using a rather easy formulation i.e. by deducting the anticipated production volumes from the domestic consumption. Up to 1994, the export quotas remained around 10 to 15% of the total Russian oil production (Bakoulev, 2004).

This rigid system of export quotas and taxes was crucial to maintain the price control mechanism and the low crude price domestically. By restricting the volume of exports, the government soaked the domestic oil market. As a consequence producers stopped producing since they neither had export quotas nor storage space and the domestic buyers were solvent. As the domestic prices of petroleum products were kept artificially low until 1995, the companies sought to export their products, legally or illegally, and provided the basis for speculation, fraud and corruption. Gradually the concept of special exporter was developed which were intermediaries between producers and government to realize the export quotas.

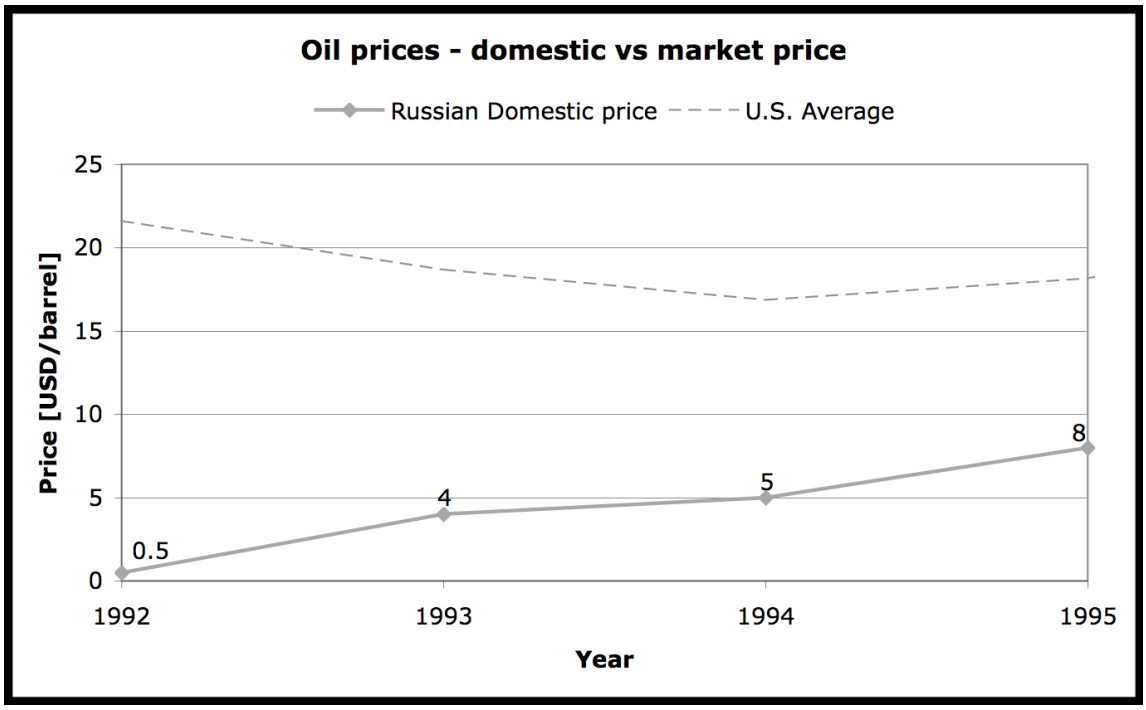


Figure 14: Russian domestic oil prices versus international prices

Note: From Mäkivierikko A. 2007. "Russian Oil a Depletion Rate Model estimate of the future Russian oil production and export", p. 47

The nadir was achieved in 1994 when the Russian producer lost $6 per barrel produced based on an average sales price of $10 per barrel. In early 1995, the Federal Board of Bankruptcy Affairs found that all Russian oil production companies except Surgutneftegas were insolvent. Between 1993 and 1998, the combination of low domestic and world prices, and the high deductions drawn from sales revenues, produced annual losses on the production of oil in Russia. In 1995 the Russian Federation decided to take serious measures to rejuvenate its ailing oil industry (Grace, 2005).

The full price liberalisation for crude oil was introduced in March 1995. The gas prices continued to be regulated by the state. In April the plan to reduce and gradually abolish the export tax was announced. Moreover, the Soviet system of annual quotas was replaced by quarterly export allocations to be approved by the government *("Iz resheniia," 1994).

4.5.4. Exports

The export problem in the post-Soviet Russia was at visible at two levels. First of all, due to the wide differential between international and domestic prices at the initial days of transition the government restricted, through a quota system, the amount of oil that could be exported. This export quota system also acted a major policy instrument in regulating the oil industry, especially in maintaining the low internal price level.

Second, with the dramatic decline in oil demand in Eastern Europe and the former Soviet republics, a large proportion of the total flow within the system has become focused on the small number of export ports that dispatch crude to the western market. Bottlenecks have occurred at export ports and the pipelines supplying them, particularly at the Russian Black Sea port of Novorossiysk. This gave the government one of the most effective tools to exert control on the oil and gas companies as the ownership of the pipeline system remained with the state (Trenin, 2005).

The combination of tight domestic price controls and non payments problem drastically elevated the importance of export sales for oil companies as foreign companies paid on time, in cash and at international prices. Although, the transport

tariffs, excise taxes imposed directly on the volume sold, taxes imposed by the local governments such as severance tax, road tax, surface tax, environmental tax, social welfare tax, exploration taxes narrowed the margin between the world price and cost to the producer, it was the only door to profits ("Obzor ekonomiki Rossii," 1995).

From 1991 to 1995, the exports were regulated via a preferential quota system. Under this system, the export quotas were allocated as an aggregate figure by the Ministry of Economics based on an analysis of expected production volumes and consumption requirements. The institution of special exporter status was introduced. These were usually producers or trading companies, which were the only entities legally authorised to export, acting as agents for producers in realising their export quotas.

In February 1995, with the decree no 209, equal access to pipelines was introduced. Domestic producers were granted equal access to the pipelines in accordance with Transneft's through put allocations. The criterion was based on oil production of a company in the previous quarter of access request. This process was led by the Ministry of Fuel and Energy but also including the Ministry of Economics, the Ministry for Cooperation with CIS Nations, and the Ministry for Foreign Economic Relations ("Pravitelstvo Rossiiskoi Federatsii," 1995).

In July 1995, the producers were given the right to re-sell their allocated space. In October 1995, Federal Energy Commission was established to monitor and regulate the export allocation system. 35% of the network capacity was spared for the integrated Russian producer companies. The rest was annually auctioned to the highest bidder. In

1996, a surcharge fee was introduced and in 1997 it was decided to consider the level of arrears of a company in allocation of export capacity.

The physical export capacity constraints inevitably led to stiff competition among the producers for access to pipeline network. Allocation of network capacity, which determined in effect the share of company's in economic rents, became an exercise of political struggle and corruption, considering the benefits accruing from it. The effect of these many regulatory changes was to inhibit investment in oil field development and more importantly, investment in pipelines and other transport related facilities. Until the end of 1998, the administrative restrictions on crude oil exports did not ease. The oil producing companies had to overcome the difficulties resulting from centralised allocation of export capacity (Stulberg, 2007).

Russian oil production experienced significant improvement from the institution of the above reforms until the present. The chart below shows Russian monthly average barrels per day produced from 1992-2008:

Figure 15

Russian Monthly Oil Production (in thousand barrels)

Figure 15: Russian Monthly Oil Production (in thousand barrels)

Note: From the Economagic Web site

Production continually fell after the dissolution of the Soviet Union and did not begin to increase until the reforms from 1992-1998 came into effect. The 12-month moving average growth rate of production in terms of monthly averages or barrels per day reveals the difference between pre-1998 production growth rates and post 1998 production growth rates.

Figure 16. Russian monthly growth in oil production rate

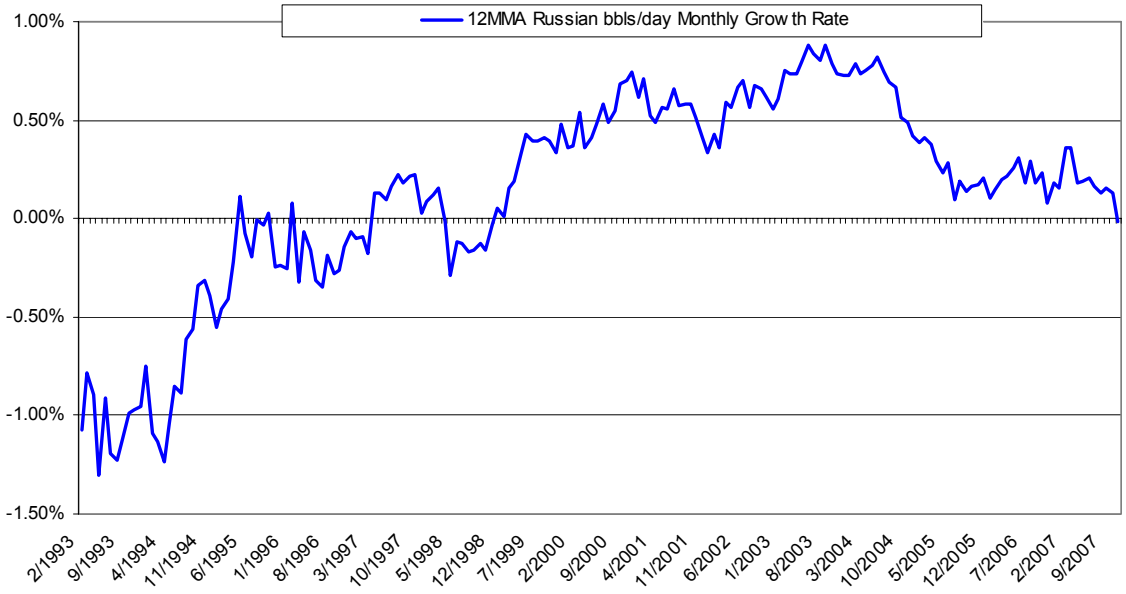


Figure 16. Russian monthly growth in oil production rate

Note: From the Economagic Web site

Currently, rates of growth of production in Russia have been falling significantly after peaking in 2003. Further evidence of the increase in exports from Russia comes from analysis of the imports of Russian oil in the United States. During the Cold War, exports to the United States were negligible. Following the dissolution of the Union, they increased and remained relatively stable until directly after 1998. The following chart shows the progress.

Figure 17. Russian petroleum exports to the United States *(in thousands of barrels per day).*

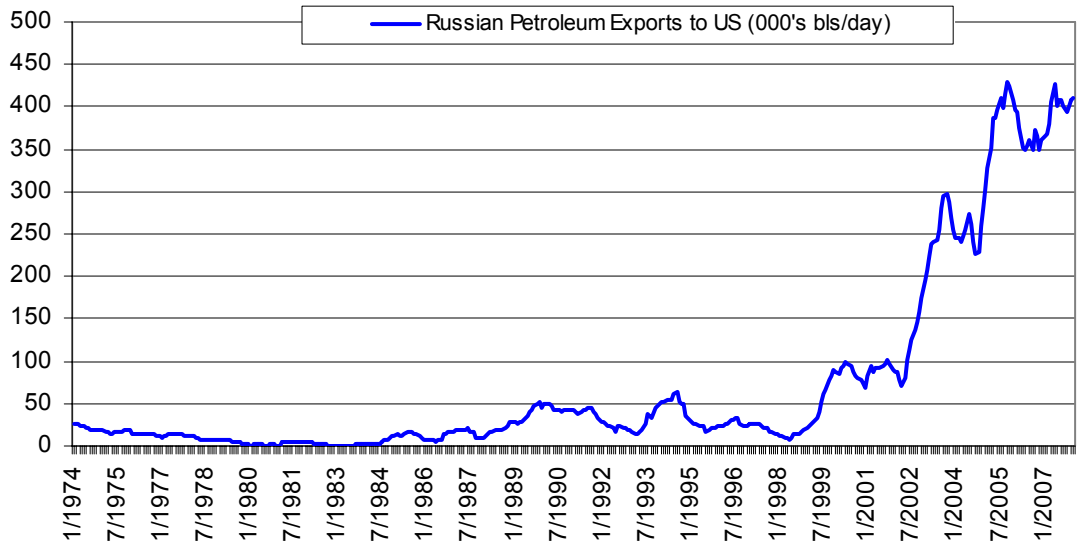


Figure 17. Russian petroleum exports to the United States (in thousands of barrels per day).

Note: From the Economagic Web site

Despite the increased capacity to export, there were still other problems that plagued the oil industry in Russia during the post-Cold War period. Specifically, non-payments became a trublesome issue.

4.5.5 Non-payments

Even as the domestic prices for oil rose and remained flat for natural gas, the industry faced another market phenomenon unique to Russia: non-payments. Many major industrial enterprises refused to pay for what they consumed. The government,

acutely aware of the importance of these resources for the amenities like basic heating and public transportation or as input to industrial production, was not in a position to take radical measures to enforce payment of producer's debts (Grace, 2005).

The non payments problem was related to the general economic collapse in a very wide geography and also rose at two levels. The inconsistent price liberalisation policies and the plethora of taxes and levies that were imposed on the industry as well as increased customer prices in 1992 led to a severe non-payments problem for the oil and gas industry. Lack of uniform accounting procedures and bankruptcy laws friction in the banking sector resulted in delays of up to six months for payment settlements. In addition consumers were making profit out of non-payments and were very reluctant to pay under conditions of high inflation. The ever hardening financial difficulties of market players, the lack of reliable short term financing instruments such as letters of credit and exchange aggravated non-payments problem (Tikhomirov, 2000a).

Central and local public authorities and state financed enterprises were among the most significant consumers of oil and gas industry. Out of the total, 45% of non-payment was by the power generation plants. A large chunk of the remaining belonged to the state-owned enterprises that were outspoken in their belief that they were immune from disconnection of energy supplies. Therefore, their payment discipline was absolutely poor. In some cases the same thinking also affected those large scale companies not financed by the public budget. All of them simply refused to pay their energy bills that led to development of a vicious cycle. The oil and gas enterprises that were not paid by these industrial complexes and public authorities, in turn were unable

or unwilling to pay their taxes, which further reduced the ability of public authorities to pay their bills (Ellman, 2000).

Energy suppliers had to deliver to non-paying clients in view of the importance of oil and gas in the industrial production and household heating. This was another doubled edged problem as these clients who were aware of this situation consequently had no incentive to consume less, or increase their energy efficiency as a result of higher energy prices.

The non-payments problem was central to the crash of Russian oil production starting in 1993 and was very influential in 1994 and 1995. As much as 30% of receivables for domestic sales were either not paid at all or paid in barter. The bartered goods were usually of questionable value and always required additional costs to liquidate. As regards the gas, Gazprom in 1994 estimated that non-payments in the gas industry reached 56% and the commercial value the unpaid gas delivered to Russian consumers amounted to 4.5 trillion rubles, approximately US$2 billion (Joint Committee for Programme Development, 1994).

In the second half of 1990s only 10 to 20% of the oil deliveries were paid in cash. The cash payments were rewarded by generous discounts in the price of oil. The remaining part of the trade was realised through barter agreements or short term promissory notes. The non-payments problem, in effect, established a de facto ceiling to the price of crude oil in Russia.

A second aspect of the non-payment problem was between Russian exporters and their customers in other CIS republics, especially regarding gas deliveries to Ukraine.

Ukraine controlled pipelines of Russian oil and gas exports to Europe. Gazprom has been obliged to continue deliveries with only slight volume reductions. As of 1 October 1994, overdue payments from CIS clients were US$2.0 billion, with Ukraine accounting for nearly US$1.3 billion of this. In the 1997, the debt increased to $ 4.2 billion (Voloshin, 1997).

The question of non-payments for energy supplies clearly placed itself at the centre of the political agenda between both countries. In the 1990s, Russia used the energy dependency of Ukraine to pressure on political questions such as ownership of the Black Sea Fleet and the extent of Ukraine's participation in intra-CIS agreements. Ukraine in return tried to exploit its transit status in the transport of oil and gas via its territory and put pressure to bear on Russia (Smolansky, 1995).

The strategy of intimidating former Soviet states through energy dependence was visible in all of Russia's dealings with its immediate periphery. The link between politics and economics became all the more apparent as the debt or energy dependence reduced the options in other areas as well. The amenable states like Belarus was charged half of the price that Ukraine was paying for the delivery of Russian petroleum and gas (Smolansky, 1995).

4.5.6. Corruption and Criminalization

To be able to analyze and assess the widespread corruption in the Russian Federation, it is important to grasp the prevailing psyche of widespread acceptance and resort to corruption at the historical background. The Soviet production processes were

inflexible due to political repression and the cumbersome mechanisms of the command economy. The economic system did not promote innovation and was unable to react to economic needs of the population with adequate adjustment mechanisms. A side effect of this inertia was widespread corruption, which was a means of resort to weaken the state's control and for the practical purpose of introducing flexibility to the system (Nove, 1969).

In a system where the major performance indicator was the fulfilment of production quotas, the enterprise managers had to break law in order to obtain the required supplies, and to meet the planning targets. Also the desire for personal advantage allured many apparatchiks into corruption. (Pleines, 1995).

The people who were involved in corruption during the Soviet times were exactly those who took on significant posts after the dissolution. The transition to market economy changed the nature of corruption. Under socialism, power and influence were sought through corruption which in a way also ensured personal wealth. In post communist Russia, personal wealth became the central value (Gurov, 1995).

In the initial years of the transformation, corruption was so widespread that it was not anymore an individual phenomenon. During the mid-1990s a stage was reached in which only engagement with corruption offered protection from criminal prosecution. Within this framework, the oil companies pursued their own agenda that essentially consisted of creating favorable market conditions for their activities, increasing profits illegally through smuggling, and laundering the profits (Pleines, 1999).

The most important reason, which allowed or even induced the formation of criminal groups that had strong ties with the oil industry, was the exclusion of domestic oil prices from price liberalisation. The intention to protect the domestic market caused a wide margin between the domestic and the export price. As a corollary, the producers opted to export their oil by any and all means rather than save it for domestic market where the consumers were either bankrupt or offered barter. Access to the pipeline network was limited through a complex quota system (Alexeev, Gaddy & Lietzel, 1995).

There were significant problems with the preferential export quota system. On the one hand the means of control for the Russian government were not effective in ensuring that the oil was not smuggled out of the country to be sold at world prices. On the other hand the incentive for smuggling was so great on the face of the wide margin between the domestic and the world price of the crude oil as well as the problem of non-payments in the domestic market. The amount of money that was involved in these transfers was substantial (Alexeev, Gaddy, & Lietzel, 1995).

In early 1998, D. Makarov, head of a division in the Analysis and Information administration of the Tax Police, identified the following forms of tax evasion: unrecorded operations, partially concealed operations, bogus operations, unregistered operations and false accounting. Using these forms of tax evasion, the most common practices were: cash settlements, moving money around corporate subsidiaries or partner enterprises, trading by goods bartering and the improper use of promissory notes, which acquired the status of a surrogate currency. In each case, a corrupt action was required on the official side to make the transaction look legal (Makarov, 1998).

The non-profit organisations, which were exempted from taxes and customs duties, also became effective tools of oil smuggling. By mid 1990s the management of the most influential organisations were taken over by armed gangs and the organisations were used as middlemen in exporting oil and importing consumer goods ("Kriminologicheskaya," 1995).

In the wake of economic reforms, corruption also spread to the privatisation process and to the liberalised foreign trade regime in 1995. In other words business opportunities in the oil and gas sector attracted the attention of the organised crime element[22] which made its presence dominantly felt around 1995-1996 to such an extent that in February 1996, Russia's Minister of the Interior, Anatoly Kulikov, stated that the oil industry was included in the spheres of interests of organised crime and that three leading oil companies, Yukos, Rosneft, and Lukoil already had strong connections with criminal groups (Olson,1995).

Another aspect of pervasive corruption was the necessity to launder money. Until 1997 the Russian legislation did not distinguish between what would be termed capital transfers abroad and money laundering from illegal activities. There were three main ways of exporting capital from Russia using foreign trade deals: (1) barter trade; (2) sham credits; and (3) double-invoicing (double-contracting) (Holmes, 1997).

In the oil sector, signing export contracts with companies abroad was the most commonly employed method to launder money. The official contract/invoice was used as a basis for reporting and taxation, while the second, unofficial one regulated the split

[22] The influence of organised crime led to an escalation of violence. As was the case in Megionneftegaz's transition into Slavneft and the struggle for presidency, many executives fell victim to murders.

of profit from the deal between the two contracting parties. The parties to the contract were either off-shore subsidiaries or companies that were somehow related with the exporting company. The Russian exporter rarely received hard currency back in Russia in return for the delivered oil but either in the off-shore account or another account in a Western country. Generally when the contract was between the off-shore subsidiary and the parent company, the oil price was kept artificially low so the payment was done to Russian company but necessary premium was provided for re-selling the oil by the subsidiary at the prevailing market prices (Frisby, 1998).

The total amount of capital which made its way out of Russia during 1991-1997 is estimated around $ 168 billion. In 1997, the foreign exchange regime was liberalised and legislation was reformed to recognise the distinction between money laundering and capital transactions (Tikhomirov, 1997).

With the liberalisation of the export and the exchange regime, the influence of the banks over the oil and sector grew substantially and profits from illegal activities declined drastically. The incentive for the companies and the banks to cooperate with organised crime waned. Also for the organised crime the increasing regulation of the state combined with the less attractive profit margin from illegal activities heralded a decrease in the activities of the organized crime (Erickson, 1995).

At the turn of the 1990s, revenue from exports of oil and gas, the main artery of revenues, decreased substantially due to historically low weak oil prices around $9. The domestic political and economic situation pointed to an overall failure of the state

apparatus. In 1998, Russia declared moratorium on its internal and part of the external debts. The federal structure started to be questioned by the constituent republics.

Expectations of a likely Russian economic recovery seemed weak for the foreseeable future. However, two changes fundamentally reversed the course of events for Russia: the change in leadership and the sharp rise in the oil and gas prices in the international markets. Strong leadership and energy resources became the two most important elements of the Russian recovery.

CHAPTER 5

CONSOLIDATION, STABILIZATION AND NATIONALIZATION UNDER PUTIN: THE BOOM

5.1. Yeltsin's Legacy

In a rather unexpected move, Yeltsin resigned as the President of the Russian Federation on the 31st of December 1999. In his farewell speech ("Obrashchenie prezeidenta," 2000), he apologized to the Russian nation and asked for forgiveness for all the failed dreams of a bright, civilized future. He also made it clear that he accomplished his lifetime goal: destruction of the communist system. When Yeltsin left the office, the Russian politics, economy, and society was in disarray. Important aspects of what Yeltsin created as a system of governance were a failed state apparatus,

kleptocracy, criminalization, societal de-generation and federal collapse ("Dozhit' do reformy," 2007).

Under Yeltsin, the structure of the economy radically changed from the command Soviet system but the many of the structural reforms stood out. The half hearted reform attempts resulted in partial price and trade liberalization associated with huge budget deficits (Kuzmichev, 2000). The creation of a market without rules and institutions gave rise to insider privatization, corruption and oligarchic capitalism (McFaul, 2000).

The failure to establish a healthy private banking system was one of the biggest failures of the Yeltsin period. It led to significant net disinvestment, which accumulated a huge backlog of delayed investment in many sectors (Khanin & Suslov, 1999). The banking sector rose to pre-eminence via insider fed currency operations, subsidized Central bank loans, and by taking state deposits hostage. The banks were the winners of privatizations and took over many of the attractive assets for a portion of their value, a situation that was loathed by the larger population (Ellman, 2005).

Yeltsin's governments chronically failed to control spending and collect taxes. Instead, they borrowed from domestic and international markets heavily to finance the budget deficits. In the end, two external shocks combined with the structural weaknesses of the economy turned the deficit into a crisis in August 1998. Ruble was devaluated and government defaulted on its debt ("Bez deneg," 1998; Yergin & Gustafson, 1998).

In 1999, the state was literally bankrupt after a decade of borrowing spree. Lacking the necessary investments and operating in a de-monetized economy,

manufacturing and heavy industries collapsed. Services and commodities, i.e. oil, gas and metals sectors supported by their banks grew in importance. Military spending was slashed. Subsistence and barter economy boomed while agricultural production fell in a size comparable only to Stalin's collectivization (Wegren, 2000).

Russian society was poor and de-moralised as a result of omnipresent poverty and inequality. The state was unable to deliver the basic public goods such as order or education. Unemployment rose to unprecedented levels. The workers' wages were delayed for months only to be paid in kind. Criminalization and corruption spread to all layers of public life. The morbidity, alcoholism, smoking and narcotics rates increased (Milanovic, 1998).

Yeltsin was obsessed with breaking the communist system irreversibly. That is probably why he paid little attention to the administrative capacity of central authorities and their ability to provide an institutional framework. Russia went into a vicious cycle: poor institutional structure emasculated the state and the weak state lacked legitimacy to advance institutional reforms. As a result, although the framework of action was broadly defined for the market, the rules were not clearly set. Politics became a tool of wealth distribution favoring a small clique (Volkova, 2000) at the expense of the people (Holmes, 1997; Abalkin, 1997).

As Russia failed to develop a durable and sustainable modus operandi, the federal constituencies exerted immense pressure to bear on the centre. Therefore in the aftermath of the August 1998 financial currency crisis, the country faced the risk of a

federal collapse (Bobin, 1998). The financing for police, military, education came from regional constituencies which risked a default on the federal order (Herd, 1999).

Yeltsin used the power sharing treaties to fill in vacuums created by the Federal constitution. The constituent parts were not sovereign, devoid of the right to secede, did not dispose of independent leadership, and did not have the right to hinder the application of federal laws. However the appetite for more sovereignty was visible (Alexseev, 2001).

At the end of Yeltsin's tenure, the upstream oil development in Russia was still facing major problems. Gas production, thanks to Soviet heritage, was not suffering from production cuts, but had many reasons to worry over its future. The domestic prices of oil and gas were still not fully liberalised. The tax regime was burdensome. Oil and gas companies struggled with non-payments. Finances for the industry were running low ("Pravitel'stvo gotovo," 1998). There were still numerable administrative restrictions on exports of crude oil notably centralised allocation of export capacity and barriers concerning the level of tax arrears (Considine & Kerr, 2002). For instance, the companies that had tax debit to the state were deprived of their rights to use pipelines for export ("Pod davleniem," 1998).

5.2. Putin's Vision for Russia: A New Tsar in the Making?

It has been argued by many analysts that Yeltsin's departure was pre-ordained and organised by his closest associates, known as 'the family'.[23] It was never fully

[23] Includes Tatiana Diachenko (Yeltin's daughter), influential journalist Valentin Yumashev, Chief of Staff Alexander Voloshin, and Boris Berezovsky.

understood why Vladimir Putin, who has spent his entire career in lower profile ranks[24], was selected as the president of Russia. At the time some commentators even thought he was a caretaker who would leave the stage soon to the real owner (McFaul, 2000). Indeed, his political competence was still a matter of controversial debates and discussions months after his premiership (Tret'iakov, 1999). Perhaps, Putin's unshakable loyalty in his previous career and his low profile gave the impression that he could be controlled by Yeltsin's circle in Kremlin.[25] Putin was considered as a seemingly dependent, politically unattached and ambition free personality (Shevtsova, 2005).

Putin was born and raised in St Petersburg, the former imperial capital. His background in one of the closest points of Russia to the West had two implications on his thinking. He believed that Russia is a part of Europe and its greatness came from the strength of the state. After the Soviet collapse, he witnessed the rapid decline of state power both at home and abroad (Trenin, 2003).

Russian society, in the run up to the elections, did not have great expectations but sought a leader who could give hope and ensure order. Just before the elections Russian Public Opinion Research Centre conducted an opinion on the expectations of the Russian citizen. The results showed that 71% of the Russians sought a strong leader and 59% hoped for a stronger Russian state (Sedov, 2008).

[24] Putin served as an officer for the Russian Federal Intelligence Service and was an advisor to the St. Petersburg Mayor before his appointment as Prime Minister.
[25] The questionnaire "For whom Putin works?" carried out by *Kommersant* in September 1999 among prominent Russian politicians; some were still confident that "he will work upon the will and directives of Tatiana Diachenko. He already proved that." See "Priamaia rech'," *Kommersant*, 1 September 1999.

Accordingly, Putin's presidential election campaign was based on a manifesto ("Otkrytoe pis'mo," 2000) that included three major promises to the Russian electorate; a worthy life, a strong state and dictatorship of the law (Alexseevna, 2000). To many analysts the election programme of Putin appeared as, almost deliberately, vague. It consisted of an image of demonstrated strength traces of which were not evident in Putin's professional career. The 3 promises were carefully selected, indeed, the most pressing needs of the Russian society after a decade of traumatic socio-economic transition. Putin's manifesto foresaw also a fight against corruption, which was claimed to be present at all layers of the economy (Shevtsova, 2005).

Putin, already at the very start of his political life as the Prime Minister, showed that he could indeed live up to these requirements. His tough stance against the Chechen separatism, his stern media image and his accurate diagnoses of Russia's need for a strong state made him enjoyable to the Russian public. Putin has consistently promoted the necessity of reconstituting a stronger Russian state, a policy objective that he valued above all others (Tompson, 2000).

The presidential elections were held on March 26, 2000 and, as expected, the Prime Minister Putin won the elections. When Putin was elected, in contrast to his predecessor, he had many advantages. He did not need to create a new ruling class, as the ruling class, which took him to power, was at his disposal, almost servile (Tompson, 2000). In the Yeltsin era, the Duma (the parliament), the Federation Council (the upper house of parliament), the media, the oligarchs, and the regional leaders all acted as checks on presidential power (Goldman, 2007).

Putin's strategy for strengthening the state targeted primarily on eliminating these checks and balances on presidential power, rather than strengthening the effectiveness of state institutions. Consequently, at the start of his presidential term he devoted tremendous time and energy to weakening every independent source of political power within the Russian political system (McFaul, 2005).

When Putin took over the presidency, the Duma, which had been dominated by the communists through out the 1990s, was already balanced by a newly created political party loyal to Kremlin, the Unity. The Unity proved to be a success, winning 23% of the total vote, 1% less than than the communist party, in the December 1999 parliamentary elections. The newly established party was ultimately dependent on the Kremlin for finances, media and political backing. After ensuring a majority in the Duma, Putin felt confident enough to turn his attention on to the Federation Council (Hesli & Reisinger, 2003).

In the Russian constitution, Federation Council is an important institution. For instance if the Duma takes any action in matters pertaining to taxes and spending, it must be sent to the Federation Council for review and consideration with a 14 day deadline. If the Federation Council rejects legislation passed by the Duma, the two houses may agree to form an agreement commission to resolve their differences. Duma is able to override a Federation Council veto by a two-thirds vote. The Federation Council also has certain exclusive prerogatives. For instance, its approval is sine qua non for the use of the armed forces outside Russia, for the calling of presidential elections, and changes in boundaries between federal subjects (Remington, 2003).

Until 1995, the Federation Council members were directly elected from each region. The members were representatives of the legislative and the executive bodies. After 1995, the law was amended to allow for direct appointment of the executive and legislative heads to the Federation Council. Under the law, the chief executives and chairmen of the legislatures of each of the 89 subjects were to be the members of the chamber by virtue of their office. This was a formula that gave the prominent regional figures greater legitimacy against the federal clout. It enabled them to block or at least delay legislation that the president might support. Moreover, parliamentary status provided legal immunity, which made it more difficult to use the threat of criminal proceedings. The senators had perfect access to the governmental information and offices (McFaul, 2000).

In May 2000 Putin proposed a new law on the formation of the Federation Council. Accordingly, chief executives and heads of regional legislatures, rather than directly serving as senators, would select representatives of the Federation Council directly to serve on a full-time basis. It remained a question mark how the majorities were going to be formed in a parliamentary chamber where members had neither party ties nor electoral mandates (Remington, 2003).

In fact, the appointment of low profile, almost technical, figures was designed to curtail the effectiveness of Federation Council in acting as a buffer between the Duma and the President. The Federation Council was the only barrier on the path to strengthening the powers of presidency. The reform of the Federation Council has had significant consequences for the role of the chamber in federal law making. The single

strongest effect was to make it a more reliable ally of the president in passing legislation proposed by the government. The President's ability to neutralize the vetoes of Federation Council also gave the office the ability to re-constitute the organization of the national system of government (Whalen, 2000).

Along with the changes in the functioning of the Federation Council, Putin, one week after his official inauguration on the 7th of May 2000, issued another decree, which fundamentally changed the functioning of the federal system. The decree foresaw formation of 7 Federal districts [*federal'nyi okrug*] among the 89 federal units of Russia. The new supra-regional okrugs also had direct authority over all federal employees working in the regions, including tax inspectors, treasury employees, and regional divisions of prosecutor general's office, the FSB, and the Ministry of the Interior. The more important was that the *okrug*s were to be governed by the Presidential appointees [*predstavitel' prezidenta*] ("V Rossii," 2000).

Moreover, during the Yeltsin years, these federal employees were dependent on local governors. In July 2000, a new law gave the president the right to remove elected regional governors in case of accusations by the prosecutor general's office. By these acts, Putin addressed the fears of a federal disintegration and aimed to increase the central control (Shevtsova, 2005).

Putin in the early months of his presidency proved to be very active. He managed to inflict severe damage to all power shareholders in the system by the pre-emptive strikes one after another, showing all the concerned parties that he was 'the boss' and subordination was the only way of survival. Oligarchs were no exception.

The issue of oligarchs loomed increasingly large for the Kremlin as well as the Russian public opinion. From their perspective, the oligarchs were guilty of taking over the state assets through manipulation of the privatization processes. The economic results, Russians believed, would have been considerably different, had the privatization been carried out in a competitive and transparent method ("Taming," 2004).

When, in February 2000, Putin was asked in a meeting "what then should be the relationship with the so-called oligarchs?" he replied: "The same as with anyone else. The same as with the owner of a small bakery or a shoe repair shop."[26] In the summer of 2000, Putin made it clear that as long as the oligarchs stayed out of politics and remained silent, he would not interfere with their businesses or renationalize state resources (Goldman, 2004).

Putin, at the very start of his reign, made real progress towards consolidation of his own political power in Russia. He demonstrated that he is willing to use the power of the state in the pursuit of important objectives, such as state building and economic reform ("Putin versus," 2000). His prescription for Russia's many ills was the strengthening of the state. Internally that translated into a political system organized tightly around the president. The powerful Kremlin administration and custom-tailored political party the Unity, and the 'siloviki', the new power elite drawn largely from the old KGB and the military, were the other major players in this system (Caryl, 2001).

Putin's economic line of thinking did not fundamentally alter from his predecessor. He was in favor of a functioning liberal market economy though with some

[26] The same statement was also mentioned in his open letter to the public. See "Poriadok Putina." *Kommersant*, 26 February 2000.

reservations. The most important change from Yeltsin to Putin was in the approach to the role of economy in the development of Russia.

In his 1999 essay on mineral natural resources in the strategy for development of the Russian economy, Putin rightly identified that the structure of the Russian economy had altered. He was aware that the key positions in the national economy were held by the fuel industry, electrical energy, and ferrous and non-ferrous metals. Putin believed that sustainable development of Russia's economy must be based on systematic growth in these already developed sectors to reach an overall annual growth rate around 4–6 per cent. The value added created from the extraction, processing and exploitation of mineral raw material resources were considered essential to reach economic diversification and to modernize the military sector (Putin, 1999).

Putin also considered Russia's natural resource endowment as the most important economic and political factor in the development of productivity. The structure of the natural resources, he believed, had a direct correlation with the economic potential. Putin saw the proper development of the oil and gas sector as an essential condition for modernizing the military industrial complex as well as providing social stability (Putin, 1999).

Moreover, Putin believed in the role of the state in achieving the re-structuring of Russian economy and in regulation of the resource sector. While relying primarily on market mechanisms, he foresaw a responsibility for the state to influence economic development by ensuring an appropriate mix of market and administrative measures particularly for the extractive and processing industries.

5.3. Foreign Policy and the Role of Oil and Gas Issues

Putin understood and recognised the importance of economic strength in pursuing the Russian foreign policy agenda. He thought of Russia's ambitions in the context of capabilities and reconciled himself to a new role for Russia. In 1993, the Russian foreign-policy concept ("Novaia vneshnepoliticheskaia kontseptsiia," 1993) called for a unified military strategic space in the CIS and sought both military and economic hegemony. In 2000, the revised foreign policy concept ("Konceptsiia vneshnei politikii," 2000) elevated Russian economic interests in the international arena into priority.

The new foreign policy concept placed Russia in the multi-polar system of international relations, of shifting and sometimes conflicting interests. Military power was still important but there was recognition that an ever greater role would accrue to economic, political, scientific and technological, ecological, and information factors. Further strengthening of Russia's statehood, consolidation of civil society and the rapid transition to stable economic growth were assessed among the decisive importance in these respects.

In contrast to both Gorbachev and Yeltsin, Putin has not defined integration into the West as the central objective of his foreign policy. He abandoned Yeltsin's foreign policy agenda which desired a continuation of the super power role for Russia despite its much limited power base. This policy was resulting in a situation that Russia had to play a disproportionate role in world affairs in its quest to balance the US and its attitude

towards the CIS integration. Instead Putin preferred to avoid conflict with the US, cooperated with the European Union, sought to re-balance relations with China and dealt with the CIS countries bi-laterally. After taking office in the spring of 2000, he made rebuilding of the Russian state his primary goal. Economic concerns were taken as the master key to the Russian position in the international arena (Trenin, 2003).

The ultimate success of these changes in the policy rested on Russia's ability to change modalities in exertion of its power from military to economic power. At the turn of the millennium it became apparent that Russia's ability to wield soft power and expand its economic and political influence ultimately came to depend on its leverage in oil and gas issues. In this respect, Putin's presidency marked a major change in the role that the oil and gas sector played in Russia's foreign policy engagements. Putin aimed to maximise the role oil and gas plays in Russia's foreign policy. There were various reasons behind the rising influence of the energy resources on the Russian policy agenda.

First, as amply elaborated in the other sections, starting from 2000 Russian economic well being came to depend on the uninterrupted flow of revenues from the sales of oil and gas in the international markets. This was basically due to the increasing oil prices, a fact which was very well understood by Putin even before he assumed power. The oil and gas sector has sustained Russia's economic growth, enabled it to push through some important reforms and afforded it the opportunity to become a new Russia (Stulberg, 2007).

Thanks to the rise in oil and gas revenues, the overall size of the economy increased about five times in current dollars—from $200 billion in 1998 to $1 trillion in 2007. Russia's per capita gross domestic product has quadrupled to nearly $7,000, and about 20 million people have been lifted out of poverty. Over the 2000–2005 period, the average Russian saw a 26% annual growth in income. Inflation was well controlled, and direct foreign investments to the Russian economy skyrocketed, making it third in the world among developing economies (Tsyganov, 2008).

Second, it was evident that economic strength triggered a cultural re-generation adding to the strength of Russian soft power. Russia has become a pole of economic attraction for its neighbouring states. Between 1989 and 2002 Russian population declined 5% (7.4 million) reflecting a lower birth rate and shorter life spans. Three quarters of that reduction was off-set by net inward migrations, in particular from the CIS countries (Hill, 2004). New arrivals from the CIS substantially outnumbered the natural fall in population or the Russian emigrants to Germany, Israel and the United States.

Third, oil and gas politics were the least cost and the most effective way of exerting Russian influence in the immediate Russian neighborhood (Melikova, 2008). The stable growth of the Russian economy since 1999 has begun to change the nature of Russian power and the way it is exercised. In this new context, the Russian energy sector has come to represent the state interests globally. Russian state oil and gas companies expanded internationally with the assistance of the Russian government (Hill, 2004). The penetrating forces of Russian power in Ukraine, the Caucasus, Central Asia and

even in Europe became Russian state monopolies Gazprom, UES, and state oil company Rosneft.

During Putin's presidency Gazprom has become an arm of the state foreign policy. Gazprom has been very aggressive and is committed to increasing its exports rapidly in the next decade. It has been very active in Europe, developed many commercial partnerships in Germany, France and Austria. It announced deals with Japan, Iran, and even China. By the end of next decade it expects to send LNG from reserves near the Barents Sea to ports in the United States.

Fourth, the profile of energy politics heightened in view of the rising prices and ever-increasing perceptions of scarcity. In the last decade, rapidly growing economies and economies under competitive international market pressures are refocusing their attention on energy diversity, energy security of supply, and energy efficiency. Within same vein, major energy-producing countries are establishing new relationships with energy users, leading in some cases to tensions in traditional geopolitical relationships.

This effectively means that energy security is becoming a widely shared concern among the industrialised as well as the developing nations. Rising global oil demand, concern over the adequacy, reliability, and pricing (costs) of energy supplies; and the associated environmental implications (green house gas emissions) occupy the state and business agendas of developed and developing countries alike. States face an increasingly challenging and complex set of trade-offs in their quest for energy security (Verrastro & Ladislaw, 2007). Russia, in this respect, had a lot to offer by becoming a reliable energy supplier to the Western Europe and even prospectively to the Asia-

Pacific region. Oil and gas resources gave Russia a prominence it would otherwise not have retained in the Post Cold War world (McFaul, 2005).

Fifth, Russia's predominant role in the gas resources has become even more significant as the natural gas, a more economic and environmentally less hazardous form of hydrocarbon, started biting higher shares of the energy balance. In the last two decades, natural gas has been widely introduced as a substitute for the oil used in industrial consumption. The share of natural gas in total world energy consumption is forecasted to climb from the current 23 percent to 28 percent by 2025. This will only increase Russia's leverage as the holder of one third of the world's reserves (Van der Linde et al., 2004).

The market structure for natural gas is very different from crude oil because it is very expensive and difficult to transport. LNG (Liquefied natural gas) provides an option for shipping but even that requires a complex supply chain which adds significantly to the costs of transport. Therefore, without a given market and long term contract, marketing of natural gas is almost impossible. The whole chain of supply forces suppliers and consumers into a long term mutual relationship of dependence. For the supplier, the demand is crucial to invest in field development and transport facilities. On the demand side, in order to mitigate technical or political risks the consumers pursue policies that primarily consist of a healthy energy balance and diversification of energy sources.

Putin's Russia has been clever enough to play on these dependencies. Russia's pipeline policy relies on increasing ties to the hard currency markets and on using the

existing energy networks as much as in favor of the Russian interests. In other words, his stance on oil and gas pipelines puts Russia on the side of Western consumers, and thus helps to increase the probability that relations with the United States, the European Union, and Japan will, for the most part, remain positive and friendly. On the other side of the spectrum, Russia uses the asymmetrical dependencies in the CIS and the Central Asia to extract behavior.

5.4. Energy Strategy Under Putin

One of the first acts of Putin was to update the energy strategy document of 1994. In 2000, a document called "Energy Strategy of Russia for the period up to 2020" was drafted and it was revised in 2003 ("Energeticheskaia strategiia Rossii," 2003). In the document, the strategic guiding lines of the long-term state energy policy were identified as: energy safety, energy effectiveness, budget effectiveness and ecological energy security ("Energeticheskaia strategiia Rossii").

The key to achieving aims in the energy sector was identified as formation of an energy market and non-discriminatory relations between its members. While the state, had to limit its functions of a main subject, it had to strengthen its role in forming the market infrastructure as a regulator of market relationship. A change in energy policy was considered necessary from the role of supplier of raw resources to become a

privileged member of the world energy market. The strategy encouraged strengthening of Russian position on the world oil markets and on the gas as a priority task.[27]

There was an explicit recognition that the European markets remained the most important markets for Russian natural resources until 2020.[28] In the longer term the USA had the potential to become an important customer for oil exports. In oil exports, the share of Asia Pacific Region countries in the export of Russian oil was planned to increase from 3% up to the 30% in 2020. As for the natural gas, its part is expected rise up to 25%. This meant that in the coming period, the strategic importance of the Russian Federation's Eastern regions has increased enormously ("Energeticheskaia strategiia Rossii," 2003).

The oil production was estimated to increase from 324 million tones in 2000 (379 mt in 2002) up to 445-490 mt in 2010 and 450-520 mt in 2020. In case of natural gas production the same figures were increase of gas production from 584 billion cubic meter (bcm) in 2000 (595 bcm in 2002) up to 635-665 bcm in 2010 and 680-730 bcm cube in 2020. One of the major failures of the strategy highlighted by the opponents of the strategy was the fact that the estimated figures for year 2010 were almost achieved in 2004 ("Energeticheskuiu strategiiu," 2004).

Similar to Yeltsin's energy strategy, Putin's energy strategy was, nevertheless, accurate in many of its diagnoses. However it was silent on the question 'how'. Besides,

[27] However, a year after the document's release, the policy was criticized and found inadequate at the parliamentary hearing at the Federation Council. See "Energeticheskuiu strategiiu nado pisat' zanovo." *Kommersant*, 10 December 2004.

[28] Actually, Western Europe is mentioned to the principal market for Russian natural gas, with Eastern Europe being the second major market. See *Energeticheskaia strategiia Rossii na period do 2020* (Moscow: 2003). Available from http://www.gazprom.ru/articles/article4951.shtml . Accessed 14 April 2008.

there was still controversy among the Russian official statistics on certain figures related to the energy policy realization ("Strategicheskie tsyfry," 2003). The strategy did not clearly indicate how to achieve many of the goals that the government has formulated for the period out to 2020. The issues of financing arrangements for new infrastructure (amounting to US$660–$810 billion overall during the period 2001–20), ownership structure, third-party access, and tariffs were left unanswered. Any indication of a settlement between the roles of the Transneft and the private sector in new infrastructure projects was absent from the strategy (Frumkin, 2003).

Moreover, in view of the domestic tariff structure for natural gas, it was obvious that the Russian policymakers faced an acute dilemma in arranging the optimal development path. The government obviously wanted to shield the energy-inefficient economy from the inflationary and destabilizing effects of an overly rapid increase in energy tariffs. However, it was reckoned that low prices for energy output to provide key inputs will deter investment in Russia's energy producing and energy-consuming infrastructure and industry.

5.5. Explaining the relationship between Russian Economic Recovery and the Oil and Gas Sector

5.5.1. Impact of the 1998 Crisis

The core problem of the Russian economy through out the 1990s was the budget deficit. The state failed to slash the government spending and establish an effective taxation system, especially a mechanism for the collection of tax revenue. Therefore privatisation, along with the short term bonds, became an important mechanism to raise the much needed finances for the state budget. In the spring of 1998, the Russian government, desperately in need of fresh finances, was again looking for a buyer to sell the 75% of shares in Rosneft, the largest Russia state oil company (Rick, 1999).

However, the oil and gas sector was not profitable enough to encourage investments or to attract new investors. With the bottoming oil prices at around $ 9 a barrel, Shell and BP, who had shown interest previously in Rosneft distanced themselves from the idea in 1998. The high cost, low revenue structure combined with a burdensome tax mechanism discouraged the few Russian companies with the resources to participate. In August the same year, crisis hit Russia (Khartukov, 1998).

The financial crisis in August 1998 produced quite a controversial effect on for the gas and particularly the oil industry. Following the crisis, the net income of oil and gas producers started increasing rapidly and substantially as most of the inputs of the industry, including all taxes and tariffs paid to the government, was denominated in ruble but the commodities were priced in dollars. With the devaluation of the ruble by

70%, revenue from each dollar covered five to six times more taxes, tariffs and operating costs not to mention the stocks that appreciated over night in ruble prices. Moreover, after the crisis of 1998, the oil exporters had to sell 75% of their currency revenues to the Central Bank compared to the previous rate of 50% ("TsB otkazalsia," 2006).

To give more concrete figures, in 1998 an ordinary Russian oil company made a loss of around $5 per barrel of oil produced. Thus, less revenue was generated by producing more oil: the revenue from oil exports in 1998 dropped to $10 billion, compared to $16.5 billion in 1997 ("Rossiiskaia neft'," 1999). The overall loss of oil producers in Russia in 1998 was estimated to be around 5 billion dollars ("Plakali nashi neftedollary," 1998). After the crisis, the same Russian company started making $2 profit per barrel of production (Considine & Kerr, 2002).

In addition, as a reaction to the crisis, various cost cutting measures were introduced. Many companies reduced in size and fired the excessive staffs, which had become a hunchback on the re-organisation and re-structuring efforts. The crisis gave many owners an opportunity to adopt better management techniques (Grace, 2005).

In 1999, the industry enjoyed the first positive return on production of oil. The surge in the world oil prices boosted the benefits accruing from devaluation. In less than a year, the value of one barrel of Brent oil increased from around $10 to around $30 in 2000 and continued its steep rise throughout the first decade of the millennium. The chart below provides data on the booming production volumes from non_OPEC countries as a response to the rise in prices.

Figure 18

International Oil Prices and Non-OPEC Production

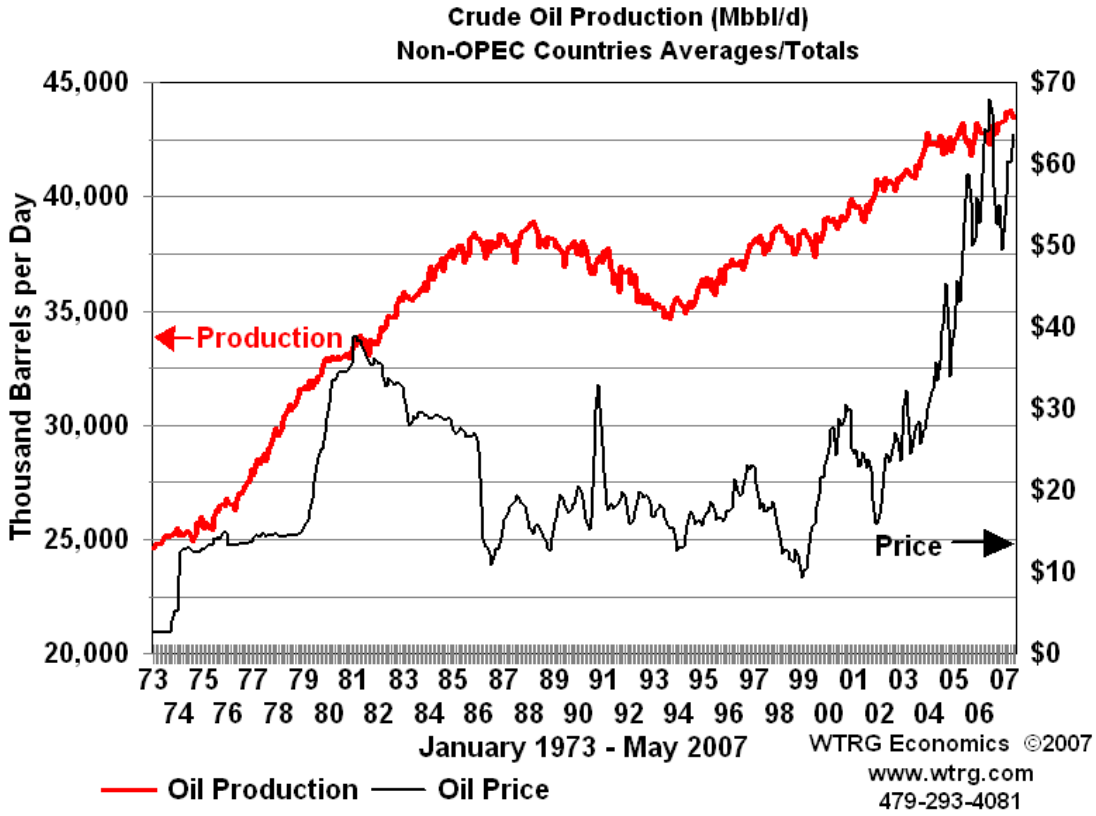


Figure 18: International Oil Prices and Non-OPEC Production

Note: From WTRG Economics web site

This improved the financial position of firms and the government, and enabled firms to reduce their tax and wage arrears, and the proportion of barter in their turnover (Berntam & Rabushka, 2006). The 1% increase in oil production volume in 1999 was important as it established the recovery trend for the coming decade. At the turn of the

new millennium, the Russian economy started an accelerated recovery on the shoulders of rising oil prices and growing oil production.

For the following four years (1999-2003), the Russian GDP grew on average by 6.7% ("Osnovnye," 2004). The budget that never managed to meet ends through out the 1990s enjoyed a surplus equivalent to 2.6 % of the GDP. The International Monetary Fund (IMF) argued that oil sector accounted as much as 80% of total governmental revenue gains in 1999-2001 (Kwon, 2003).

Table 24

Percentage Change of Macroeconomic Indicators

	1999	2000	2001	2002	2003	2004	2005
GDP % increase	6.4	10	5.1	4.7	7.3	7.1	6.4
Industrial production increase %	11	11.9	4.9	3.7	7	6.1	4
Fixed capital investment %	5.3	17.4	8.7	2.6	12.5	10.9	10.5
Real disposable income increase %	n.a	12	8.7	11.3	13.7	7.8	8.8
Federal budget balance as % of GDP	-1.1	2.3	3	2.3	1.7	4.2	7.5

Note. From *Rossiiskii statisticheskii ezhegodnik – 2003*. Available from http://www.gks.ru/bgd/regl/B03_13/Main.htm . Accessed 20 May 2008.

The windfall revenues from the rising oil prices gave the oil companies the needed capital to improve production efficiency. This investment led to a sharp increase

in oil production and exports in the following years. Oil sector investment jumped from roughly 25% of total industrial investment before the crisis to around 35% from 2000 onwards. The growth of oil sector investment was led by companies controlled by the state or by oil industry insiders. By 2000, their investment was already 70% above 1998 levels (Ahrend & Thompson, 2005).

It also gave every incentive to improve the management of the assets. Idle wells were brought into operation; new machinery and technology were imported. The continued decline of the Russian heavy industry ensured that the bulk of the marginal production was available for exporting. By 2001, the Russian oil production had increased to 7 million barrels per day (bpd),[29] 1 million bpd higher than that of 1999. The prospects were even brighter as long as the prices remained above $25 (Hill, 2004).

The official Russian statistics of the production of oil can be found in Table 25.

Table 25

Official Russian Statistics of the Production of Oil

Year	Production (in millions of tons)
1995	298
2000	313
2001	337
2002	367
2003	408

[29] Or, according to official Russian statistics, 497.8 million tons in 2001. See "Balans energoresursov za 2001 g." *Rossiiskii statisticheskii ezhegodnik – 2003*. Available from http://www.gks.ru/bgd/regl/B03_13/IssWWW.exe/Stg/d030/i030020r.htm . Accessed 20 May 2008.

2004	443
2005	453
2006	462

Note. From "Dobycha nefti," *Rossiiskii statisticheskii ezhegodnik – 2007*. Available from http://www.gks.ru/bgd/regl/B07_13/IssWWW.exe/Stg/d03/13-27.htm . Accessed 12 May 2008.

In view of the increasing prices, the petroleum balance also tilted in favour of exports. The figure below shows that although Russian domestic consumption was relatively stable around 3 million barrels/day, the exports reached 7 million barrels in 2007.

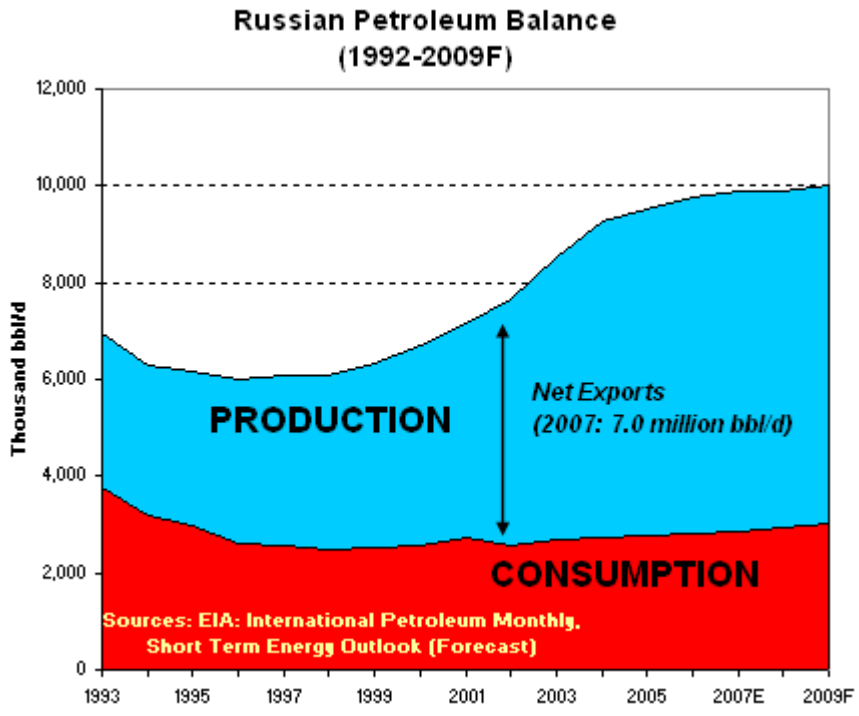


Figure 19: Russian Petroleum Balance

Note: From the Energy Information Administration Web site available on the following web site: http://www.eia.doe.gov/emeu/cabs/Russia/Oil.html accessed on 11.07.2008

While surging oil exports provided the economy with the immediate capital needs, the bulk of the natural gas production continued to subsidize the power generation, the household heating, and the industry. Gradually, the export revenues from natural gas also increased as a result of their adjustment to the growing oil prices. The gas production remained flat around 550-600 bcm (Milov, 2005).

Table 26

Official Russian Statistics of the Production of Natural Gas

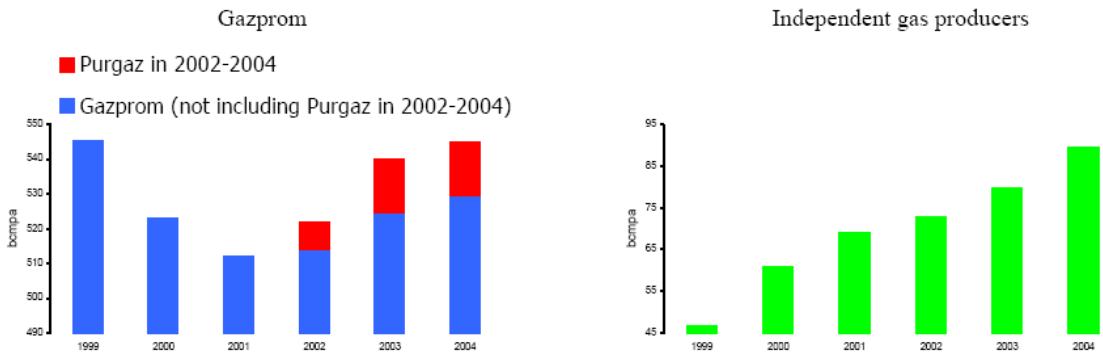
Year	Production (in bcm)
1995	570
2000	555
2001	551
2002	563
2003	581
2004	591
2005	598
2006	612

Note. From "Nominal'nyi ob'em ispol'zovannogo VVP," *Federal'naia sluzhba gosudarstvennoi statistiki*. Available from

http://www.gks.ru/bgd/free/b01_19/IssWWW.exe/Stg/d000/i000170r.htm . Accessed 14 May 2008.

Figure 20

Gas Production in Russia 1999-2004



Source: Gazprom, Goskomstat, Oxford Institute for Energy Studies

Figure 20. Gas production in Russia 2002-2004.

Note: From World Economic Outlook, 2004

There were also other factors that played a decisive role in the recovery of the Russian economy. The relative price adjustments and the collapse in the real exchange rate resulted in import substitution and provided a stimulus to domestic producers of

consumer and manufactured goods. The industrial and agricultural production went up by 5-6%; the real incomes grew by 6% as a result of a nominal increase in wages and pensions above 20%. The ruble was stabilized. Such developments were unimaginable during Yeltsin years (Hill, 2004).

5.5.2 Sector's Recovery and the Russian Economy

Starting in 1999, the oil prices started to climb from its historical lows in 1998. This had a substantial impact on the performance of the Russian economy in many respects. Increasing prices provided an important opportunity to boost the oil production and the oil export volumes. Industrial production surged. The increasing export volumes and the higher prices changed the current account balance favorably which positively affected the consumption. With the reform of the taxation system, the federal budget revenues increased substantially. Steadily flowing revenues increased the monetisation of the economy, helping the flourishing of a healthy financial system. As shown in the table below, the overall macroeconomic performance indicators initially stabilised and gradually got better.

Table 27

Main Macroeconomic Indicators

	2001	2002	2003	2004	2005	2006	2007-9M
GDP growth, %	5.1	4.7	7.3	7.2	6.4	6.7	7.9*
Industrial production growth, y-o-y, %	4.9	3.7	7.0	8.3	4.0	3.9	6.6
Fixed capital investment growth, %, y-o-y	8.7	2.6	12.5	10.9	10.5	12.6	21.2
Federal government balance, % GDP	3.0	2.3	1.7	4.2	7.5	7.5	7.5
Inflation (CPI), % change	18.6	15.1	12.0	11.7	10.9	9.0	9.3**
Current Account, billion $	35.1	32.8	35.9	60.1	86.6	94.5	57.1
Reserves (including gold) billion $, end-o-p	36.6	47.8	76.9	124.5	182.2	303.7	447.0**

**Data for the first half of 2007*
***Data for the first 10 months of 2007*

Note. From "Osnovnye makroekonomicheskie pokazateli," *Investitsii v Rossii – 2007*. Available from http://www.gks.ru/bgd/regl/B07_56/IssWWW.exe/Stg/01-01.htm . Accessed 20 May 2008.

The main driver of Russian economic recovery was the increase in oil and gas prices and the export volumes. It is estimated that a $1 per barrel drop in the price of oil costs Russia more than $2 billion in export revenues and $1 billion in budget revenues. A $1 a barrel drop in oil prices translates into a loss of about 0.4% in Russian GDP per year (Jaffe, 2001).A drop in oil prices to $14 a barrel would create budget deficits for the Russian government. A fall below $10 a barrel would likely eliminate Russian GDP growth altogether. The figure below shows the clear correlation between the world oil prices and the Russian economic growth. The Russian economy performs better at oil prices above $20.

Figure 21. World oil prices and Russia's economic growth, 1997-2003.

Note: From Hill, 2004, p34

According to a World Bank report in 2004, growth above 5% in Russia has always come with an increase in oil prices. High crude oil prices triggered a multiplier leading to an increased production in other industries, with manufacturing growth outpacing resource industries (World Bank, 2004).

During 1999-2006, the size of the Russian economy grew by 400%; the country's GDP rose from $200 billion in 1999 to $920 billion in 2006 (Central Bank of Russia, 2007). As shown in the below table, the nominal growth in ruble terms was almost 1200%.

Table 28

Russian Nominal GDP in Current Prices

Year	Gross Domestic Product
1998	2,629.6
1999	4,823.2
2000	7,305.6
2001	8,943.6
2002	10,817.5
2003	13,243.2
2004	17,048.1
2005	21,625.4
2006	32,987.4

Note. Measured in billions of rubles. From "Nominal'nyi ob'em ispol'zovannogo VVP," *Federal'naia sluzhba gosudarstvennoi statistiki*. Available from http://www.gks.ru/bgd/free/b01_19/IssWWW.exe/Stg/d000/i000170r.htm . Accessed 14 May 2008.

An analysis of the World Bank statistics shows that the bulk of the GDP growth was actually triggered by boom in services sector rather than the natural resources sector. However, it should be noted that the consumption boom was balanced by rapidly increasing volumes of oil exports. While growth was increasingly driven by consumption, it was largely sustained by increasing export volumes (Ahrend & Thompson, 2005).

The natural resource sectors also directly accounted for roughly 70% of the growth of industrial production from 2000 to 2004. In this growth the oil sector

contributed around 45%. The result of this industrial boom was reflected in the GDP growth rates. According to various estimations, the natural resource sectors directly accounted for more than one-third of Russian GDP growth over the same period. Again the share of oil industry alone in this growth was around 25% (Gurvich, 2004).

Tax reform also played an important role in sustaining the recovery. A proposal adopted in 2000 but came into effect in 2003 simplified the taxation procedures and introduced a transparent system which increased the efficiency of taxation. Many tax rates were significantly reduced which helped to broaden the tax base. This diminished both incentives and opportunities for tax evasion. The creation of a federal treasury, the reform of fiscal federal relations and the fiscal discipline helped to establish an efficient expenditure management (Ahrend, 2004).

Putin also ensured that it was the federal government, which benefited the most from the windfall from high oil prices rather than the oligarchs. After his re-election in 2004, in line with the announced election strategy, the export tariff was made reactive to the market fluctuations. As he mentioned, the means to deprived oil companies from excessive profits (*sverkhpribyl*) were the simple instruments like export tax on oil export and a tax on exploitation of mineral resources ("U neftiannikov," 2004). According to the new system, the tax to be paid was made a derivative of the price of the crude oil. The companies were to pay higher export tariffs when the price of the Ural crude averaged over $ 20 per barrel for two months. This helped to increase the revenue base for the Russian government ("Russia pledges," 2004).

As a result of better taxation, the share of revenues from customs duties increased significantly from 7.1% in 1999 to 16 % in 2004 and 18 % in 2006. The total tax payments of the oil and gas sector in 2004 were $ 56.5 billion reflecting 35.8% of the total revenue and 6.7% of the GDP (Russian Ministry of Finance, 2008). The chart below shows the relationship between the oil prices and the federal budget revenues.

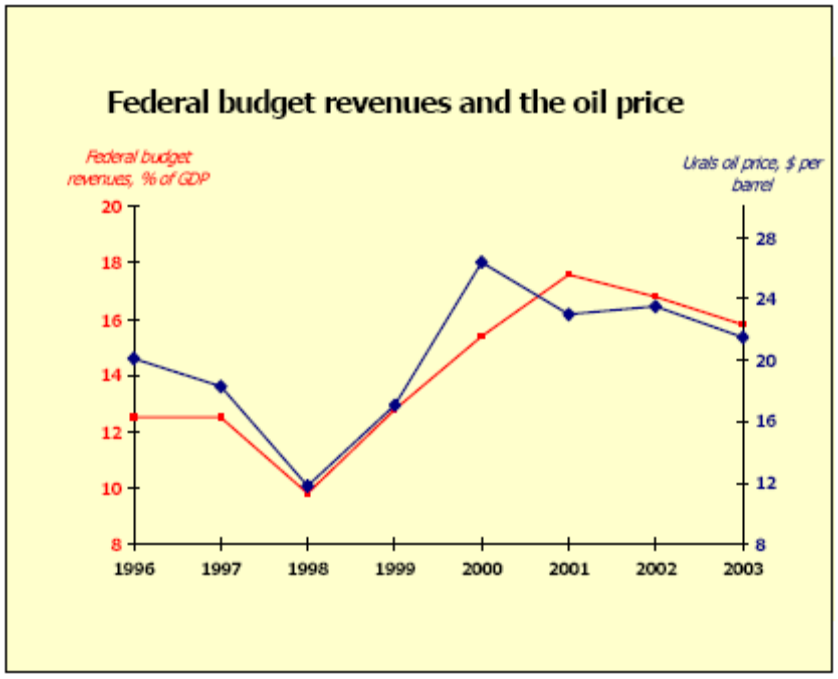


Figure 22. Federal budget revenues and the oil price, 1996-2003.

Note: From Hill, 2004, p.36).

Moreover, the government adopted a disciplined and realistic fiscal policy in sharp contrast to the pre-crisis period. The federal budgets aimed for surpluses and did not depend on the rising revenues from high oil prices. This approach delivered sizeable surpluses and a budget that was relatively immune to the oil prices. The government

resisted the temptation to spend this windfall, instead using a significant part of it to repay debt and accumulate some reserves (Ahrend, 2006a).

Prudent fiscal policy and the resulting budget surpluses played a key role in reviving private investment. As explained already, Russia witnessed a drain on investment from 1992 to 1998. After 1995, this was due to the excessive pressure that the government put on the financial markets to finance its large budget deficits, pushing real yields on government paper into double and even triple digits (Oppenheimer & Maslichenko, 2006).

In 2000s, the Russian private sector started investing again. Yet, it preferred to invest with the money that was borrowed from the international markets. Owners of Russian enterprises increasingly borrowed abroad to finance the development of their enterprises, while at the same time taking large amounts of capital out of their companies and beyond the reach of the Russian state (Ahrend, 2006a).

Another tool of for effectively exploiting the windfall revenues was the price stabilisation fund. It was established in 2004 with Federal Law No: 183. The fund is aimed at covering the budgetary expenses such as debt servicing, social commitments in case the oil prices fall below the $ 20 threshold. Thus a portion of revenues from export duties and severance taxes on oil were to be transferred into this fund when the oil prices were above the base price of $20 (“Pravitel’ stvo,” 2004).

Resources from this fund were to be used for financing of deficits in state budget, pension fund and repayment of foreign debts. The government also aimed at dampening of inflationary pressure and limiting the real terms appreciation of the ruble. (Tabata,

2006).Since its establishment, the money stock in the stabilisation fund reached from $18.9 billion in 2004 to $89.1 billion in 2006 and 157 billion in early 2008.[30]

There were also good developments on the debt servicing front as debt repayment from budget surpluses and ruble appreciation have led to sharp falls in the ratio of debt service to GDP. Federal interest expenditures fell from 3.4% of the GDP in 1999 to around 1% in 2005 (World Bank, 2007).

In view of the booming exports, both in volumes and increasing prices, the current account surplus also increased consistently from $ 34 billion in 2000 to $ 95 billion in 2006. The current account surplus was, however, not driven by high oil and commodity prices alone. Export volumes increased by roughly 50% during 2000-2006 and this increase was overwhelmingly driven by the oil sector which increased exports by more than 80% (Ahrend, 2006b).

All these considerations lead to the conclusion that to sustain this positive economic picture, Russia has to continue the robust growth in exports. It seems that such a growth is not possible without the strategic contribution of natural resources which is already providing around 60% of the total Russian exports. Up to 2007, other than oil, major export sectors contributed little to overall export growth. Their export volumes and terms of trade did not catch up with that of the oil sector. Natural gas exports were stagnant but benefited from the increasing prices. Even if Russia managed sharply to increase exports of more sophisticated manufactures, their contribution to total export

[30] Official Price Stabilisation Fund Statistics are available on the following official web site: http://www1.minfin.ru/en/stabfund/statistics/aggregate/ accessed on 28.04.2008

growth would remain modest for some years to come, given their small share in the overall exports.

The share of oil and gas exports in the total exports and their ratio to the GDP is shown in the table below:

Table 29

Statistics on Hydrocarbon Exports

	1998	1999	2000	2001	2002	2003	2004	2005	2006
Oil and gas exports in billion $	27.9	31	52.8	52.1	56.3	56.3	100	148.8	191.7
Share of total exports	32.3	36.6	46.1	46.1	46.4	49.2	54.7	61.1	63.3
Ratio to GDP	10.4	15.8	20.3	17	16.3	17.1	18	18.3	19
Average Price of Ural Crude	10.9	14	18	20.9	21	23.9	34.1	45.2	56.2

Note. From The World Bank Assessment of the Russian Economy, 1997.

Some certain segments of the manufacturing sector that serves the domestic demand and those which face with limited competition from imports may continue to thrive in Russia's booming domestic market. However, the strong export growth brings in another inevitable result that is the real appreciation of the ruble. The strong ruble becomes a hunchback on the tradable sectors of the economy as long as the efficiency in

productivity is not increased. The ruble also drives up unit labor costs, hindering competitiveness (Berezinskaia, 2008).

As argued by many analysts, countries with the stronger manufacturing performance also display higher number of export discoveries and export sophistication. In Russia, the inevitable focus on low-sophistication export products, has led to stagnation in economic diversification and export sophistication. Oil and natural gas are goods that require inputs that have few alternative uses to develop new products.

Therefore, vigorous export growth in the short to medium term will probably not be possible without further increases in mineral and especially hydrocarbon exports. However, due to lack of investment, no major new production facilities have been brought on line in the capital intensive oil and gas and metal industries. So growth of export volumes may slow down in the near future (Gavrilenkov, 2006).

Avoiding such a situation depends on developing prudent policy choices. Pipeline infrastructure needs to expand to support the growth of exports. Long term gas deals needs to be signed and necessary investments for field development need to be made. Fiscal and regulatory policies should encourage development of new fields by providing incentives to engage in substantial up front investments (Ahrend, 2006b).

Lastly, although Russia experienced various benefits from the revival in the oil and gas industry, the resource based economy may complicate the future economic development in various other ways. First of all, resource oriented exports leads to more corruption. The economic development, if not supported by a clear regulatory and institutional framework, may be distorted in favor of rent seeking (da Cunha Leite &

Weidmann, 1999). Also resource domination in the economy results in greater inequality of incomes. Moreover, the allocation of talent in natural resource economies is biased in favor of the resource sector. The best human resources and entrepreneur skills tend to be attracted by the opportunities in the sector (Gurvich, 2005). The Russian government should establish the conditions for a competitive market environment and sufficient incentives exist in other sectors of the economy. Increasing taxes on the resource sector can be used to lower the tax levels in other sectors to foster development and provide growth stimulus (Ahrend, 2006b).

5.6. Re-nationalization of the Oil and Gas Sector

5.6.1 Who owns the sector: the Tsar or the Boyars?

The weakness of the state was a key characteristic of Russia in the 1990s. In this period, the state was unable to resist the pressure of various interest groups, to ensure proper tax collection, or provide business with a standard set of services for the protection of property and contractual rights. The oligarchs, who took over the most precious assets of the Russian nation in rigged deals, commanded considerable wealth and dominated the state apparatus. By the end of 1990s, the combined wealth of the largest financial industrial groups in Russia was around 40% of the Russian GDP. Most of the prominent media institutions were owned by these financial groups. Oligarchs enjoyed a weak and malleable state in which served their interests (Hoffman, 2003).

The relations between the oligarchs and the state in Russia was characterised by the so-called piratisation of the state or state capture (Hellman, Jones & Kaufman, 2000). Thus, the term state capture [*zakhvat gosudarstva*], capitalism for chosen ones [*kapitalizm dlia izbrannykh*] ("Kapitalizm dlia," 2006) or courtiers [*pridvornye*] ("Pridvornye," 2004) became a synonym for the Russian economy. The elements of state capture were particularly visible in the privatisation schemes,[31] the extension of arbitrary credits from the Central Bank, the selective subsidies to industries, the servicing of state budget accounts at commercial banks, the preferential access to foreign exchange transactions and the purchase of government bonds and the allocation of oil export quotas and provision of preferential import tariffs (Wolosky, 2000).

Business performance in particularly banking and finance, export transactions and heavy industry depended on decisions of the federal government. In other words, an oligarch's success was a derivative of his connections to the government officials as well as on his ability to out manoeuvre or intimidate rivals. Consequently, the above-mentioned factors provided strong incentives for corruption, bribery and violence (Kryshtanovskava, 2002).

When it came to dealing with the oligarchs, the government was generally unable to exercise much control. Since the state was very weak, the oligarchs paid little or no taxes on their purchases. They manipulated business deals, used their media to set the political agenda and were particularly emboldened after taking part an important role in re-election of Yeltsin (Frye, 2002).

[31] The term referring for the privatisation schemes was 'privatisation of state' or 'privatised state' [*privatizirovannoe gosudarstvo*].

With the start of the Putin's presidency, the relations between business and state made a shift from the state capture model to the model of informal submission of private businesses to state interests, which can be labelled as business capture by the state (Yakovlev, 2006). One of the primary reasons for such a move was Putin's distaste with the oligarchs. He did not believe that the oligarchs were acting in tandem with the state's policies and society's interests. As it is apparent in his own writings, Putin was convinced that Russia's economic recovery and re-emergence as great power rested on its ability and effectiveness to exploit the country's resource wealth. Due to this reason, he considered the ceding of control in the oil and gas sector to private hands as a costly mistake, which needed to be reversed. Moreover, the existence of the concept of oligarchs was against the whole government rationale of Putin: the strong state (Balzer, 2006).

In fact, one of Putin's other convictions, as opposed to early reformers such as Chubais or Gaidar, was that he did not trust the market mechanism in bringing the best outcome for the society. Taxation in addition to regulation was not sufficient to secure an acceptable outcome for the nation. Taxation and regulation were only the tools of state management in natural resource use (Balzer, 2006).

According to Putin, the state should provide the regulatory framework to establish legal and financial guarantees to facilitate investment. Even the role of the state control can go one step further to reach a rational combination of public and market means which necessitated creation of an efficient system of state bodies that are responsible for stimulating innovation and investment. For Putin, state was the overseer

of the strategy in the oil and gas sector. This implied that the state had to have sufficient leverage in the sectors to shape the development agenda (Olcott, 2004).

Putin was also aware of the insufficient capital basis for further development of the oil industry. He was an advocate of foreign investment and creation of vertically integrated financial industrial groups. However, in his version, the state also had a special role to play. In return for state support, the FIGs had to provide Russia with a steady source of mineral resources and products, increase efficiency of exploration, expand the export potential and help in diversification of the economy by investing in manufacturing (Olcott, 2004).

Just after assuming the presidency, in an interview, Putin described himself as a supporter of 'managed democracy', a system controlled by the top elites to ensure that the best interests of the society are not jeopardised by the other dominant factors. He explained that this system of governance is in line with the historical development of the Russian society; therefore strengthening of the Russian state was on the top of his priority list. According to one definition, managed democracies involve democratic connotations and tolerate, to varying degrees, political rights and organized political opposition. However, those in control of the state can make calibrations to the governance system. This gives the governing elites an exemption in selective uses of the law to ensure the continuity of their tenure (Mandel, 2005).

As an upstart president, Putin understood very well that the oligarchs, who survived the 1998 financial melt down, were an extremely powerful interest group. These were the men who designed and implemented the loans for shares scheme. They

were the group who got Yeltsin re-elected via massive financial and media support. In 2000, the economic power of Russia's twenty five richest men far outstripped that of the Russian budget (Rutland, 2001). Initially Putin tried to keep the oligarchs at an arms length. He formalised the relationship with the oligarchs in a platform of the Russian Union of Industrialists and Entrepreneurs to serve as an advisory group to the presidency (Shevtsova, 2005).

In reaction to Putin's reserved attitude, the oligarchs tried to secure and legitimise theirinfluence through participating in the regional or Duma elections. Some of the oligarchs, such as Yukos vice-president Boris Zolotorev or Sibneft chairman Roman Abramovich, were elected as governors of distant Russian provinces, Evenkia and Chukhotka respectively. Khodorovsky generously extended donations to many parties in the Duma, including the Communists ("Khodorkovskii gotov," 2003). The influence of the oligarchs was particularly visible on the foreign investment, trade, and taxation legislation. Oligarchs were keen to alter the taxation legislation to allow for making tax declarations in the regions where their assets were located ("Yabloko," 2003).

Putin was aware that his ambition to dominate the oil and gas sector could not be attained without a fully pliant parliament. For this reason, the parliamentary elections in 2003 were crucial for Putin's plans. In the parliamentary elections of December 2003, the parties that were supported by Putin won a re-sounding victory. This, in effect also meant that Putin was certainly running for a second term in the office (Shevtsova, 2005).

Putin was re-elected in March 2004 with 71% of the vote. Such a high endorsement of his presidency, gave him a free hand to shape Russia's future economic and political system. The role of the state in the Russian energy sector and the general philosophy of the Russian energy policy changed dramatically after the beginning of the second presidential term. After re-election, it became clear that Putin had his own economic agenda, quite different from his first term, which would be implemented directly from Kremlin (Goldman, 2005).

During re-allocation of his government, Putin gave precedence to the prominent figures from the energy industry. The former deputy Prime Minister Victor Khristenko was appointed to lead the industry and energy ministry. The former governor of Perm region Yuri Trutnev was appointed as the Minister of Natural resources. The former vice-president of the Rosneft Sergey Oganessyan was appointed as the head of the Federal Energy Agency (Kotov, 2003).

Also several oil business representatives were elected in the Duma in December 2003. Among them were the TNK vice president Vyacheslav Timschenko, TNK representative Alexander Shilbalkin, Alfa group manager Konstantin Vetrov, Yukos chair Sergei Muravlenko, Lukoil representatives Lyudmila Maltseva and Valery Prozorovsky, and Sibneft representatives Sergei Kaprlov and Liliana Pepelyaeva.

As Putin gained better control of the levers of power, Russia's policy towards the oligarchs changed. Khodorovsky's arrest signalled a dramatic shift in how Russia intended to do business in the energy sector. After the March 2004 elections, it was clear that the Yukos affair was not an aberration but rather the first step of a calculated plan

and part of a vision for the future development of the Russian oil and gas sector (Weir, 2007). As was duly stated by a Russian journalist, the Khodorkovsky trial culminates the era of liberalism and started the era of dirigisme ("Gosplany na buduschee," 2004).

The actions summarised in the following table give an indication that the strategic decision making capability was transferred to the Russian state in both the oil and gas sector (Milov, 2005).

Table 30

Hydrocardbon Assets Transferred to State Control

Year	Oil	Gas
2004	State-owned Rosneft acquired assets of Yukos, Russia's largest private oil firm until it collapsed after Khodorkovsky's arrest.	Russia cancelled ExxonMobil's rights to develop Sakhalin Ill, a gas field in the Sakhalin Islands.
2005	State-owned oil and gas firm Gazprom acquired controlling stake (75%) in Sibneft for $13 billion. Sibneft was a last minute insertion to the loans for shares deals on the insistence of influential oligarch Boris Berezovsky. The company was taken over by Roman Abramovich after Berezovsky feld the country in early 2000s. Both have been criticised for poor management of their resources. There is no synergy whatsoever as Sibneft produces negligible amounts of gas and the Sibneft little oil.	Gazprom obtained exclusive rights to export natural gas. The state overtook controlling stake in Gazprom.
2006	The government cancelled Paris-based oil company Total SA's license to extract oil in	Gazprom acquired controlling stake in the $22 billion Sakhalin II project from Royal Dutch Shell.

	the Arctic. Russia refused to ratify the European Union energy charter since it requires third-party access to pipelines.	
2007	A Moscow court gave Kremlin control of six oil companies, including Bashneft, Russia's 10th-largest oil producer.	TNK-BP, a BP joint venture, agreed to sell its 62.8 percent stake in the Kovyta gas field in Siberia to Gazprom after authorities threatened to revoke its license.

The re-nationalisation of the Yukos was a significant sign that the Russian state was willing to take back the commanding heights of the oil and gas industry. The effort was accompanied by parallel moves to gain the controlling share in Gazprom and to create a Russian national oil company, Rosneft. Under Putin, the Russian state used its internal power to change the balance in its favor. Putin considered these changes as necessary to increase the external influence of the Russian state.

5.6.2. Yukos Affair

On July 9, 2003 the Prosecutor General's Office began an audit of Yukos upon a formal request from Mikhail Bugera, one of the Duma deputies. Bugera in his request raised charges against the Yukos for tax evasion in relation to the privatisations that took place in 1996.[32] Following the financial inspection Yukos' CEO Mikhail Khodorovsky, who was found guilty of violating seven articles of the Russian Federation Criminal

[32] For the excerpts from Bugera's interpellation, see "Prokuratura provodit proverku uplaty nalogov 'YUKOSom'," *Gazeta.Ru* (09 July 2003). Available from http://www.gazeta.ru/2003/07/09/last91681.shtml. Accessed 12 May 2008.

Code, was arrested on October 25, 2003. The charges were: personal income tax evasion, overseeing corporate tax evasion, non-compliance with a court of judgment, falsifying documents, and theft.[33]

The arrest, as many commentators observed, was a showdown with one of the most prominent oligarchs to deliver a strong message to the others in the business. Formally the arrest was linked to the 1996 loans for shares privatisations during which Menatep acquired the fertiliser company Apatit for $ 225,000 and pledged to invest $ 283 million within one year. The investment did not take place. Prosecutors further charged that Yukos defrauded the other shareholders in Apatit via transfer pricing operations[34] directed by Yukos' off-shore shell companies. There were also other reasons behind the arrest (Grace, 2005).

Khodorovsky made powerful enemies[35] during the August 1998 financial crisis when Menatep Bank re-organised its holdings. After the re-organisation, Menatep Bank manipulated its debt obligations by diverting the assets of the bank to a St Petersburg branch but leaving all debt obligations in a bankrupt holding. This left many account holders literally bankrupt. Also he made other enemies during the taking over the

[33] For details of the indictment, see"Mikhaila Khodorkovskogo rassledovali." *Kommersant*, 15 May 2004.
[34] Transfer pricing is a way of transferring profits from the producing subsidiaries to a off-shore located trading company via selling at cheap prices. The trading company is also owned by the same holding and usually only exists on paper. The trading company then re-exports the same product to global markets at a higher price and avoids any tax obligations. This situation consistently led to an underestimation of oil's share in the Russian GDP.
[35] One of them was "Rosneft'," whose head, Sergei Bogdanchikov, sent an appeal to the General Prosecutor accusing YUKOS of stealing 19% of the "Yeniseineftegaz." See "'Rosneft' podarila Genprokuratore kompromat na YUKOS," *Lenta.Ru* (08 July 2003). Available from http://lenta.ru/russia/2003/07/08/rosneft/ . Accessed 22 March 2008.

management of the Yukos when majority of the investors sold their shares pre-maturely ("Bank Menatep," 1999).

Furthermore, the international investors who were in partnership with Yukos in various projects regularly found out that they had acquired worthless pieces of paper, due to transfer pricing by the Yukos holding company. Kenneth Dart, a well known American investment fund, who had invested significant amounts in two oil producing subsidiaries – Yuganskneftegas and Samaraneftegas – of Yukos had to write off an estimated $1 billion as a consequence of transfer pricing schemes. The oil company then known as Amoco (and later as BP-Amoco) had a similar experience. Both put money into an oil-producing subsidiary that Yukos seized and stripped of its assets (Goldman, 2004).

In contrast to his bad reputation, after consolidating his ownership in the company, Khodorkovsky made a new start in 1999 and reformed the company management. Yukos hired Western accounting firms to support the re-structuring effort and acknowledged a transparent stockholder structure. It began to pay back wages to its employees and published an adequate tax statement. Also the Yukos' board of directors was re-organised, bringing in several well-respected Western investors, lawyers, and businessmen, including the former British foreign Minister David Owen ("TNK nachala okhotu za golovami," 2002).

These changes did not go unnoticed. The interest in Yukos shares grew which also increased Khodorkovsky's self-confidence. Eager to expand its business activities, he announced plans to build a new pipeline: one to the Arctic port of Murmansk a base

for exports to the United States, another through Siberia towards the Asian markets (Skorniakova, 2003).

Map: Russian Oil Export Pipelines

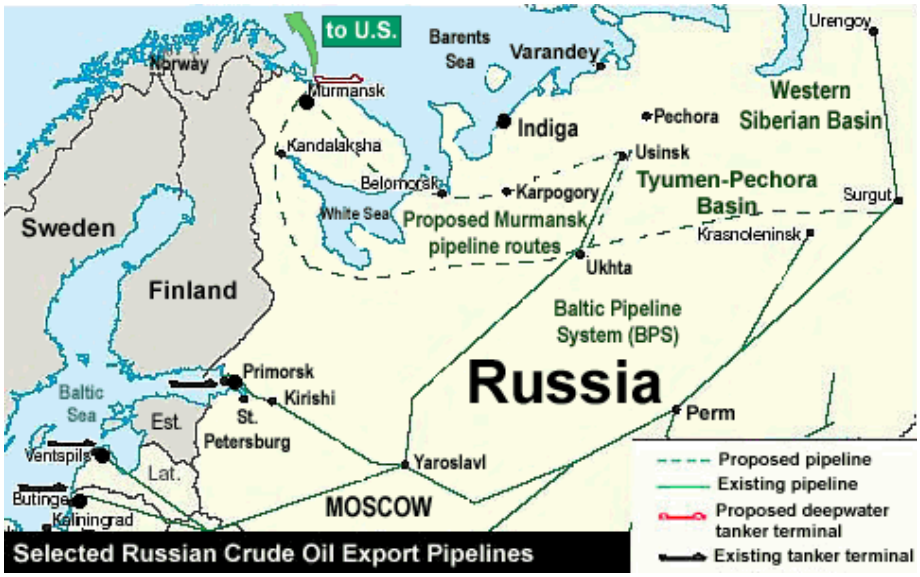


Figure 23. *Map of Russian oil export pipelines.* (International Energy Agency, 2004).

Murmansk is an area where the Gulf stream ends. It is a non-freezing deep-water area (unlike Baltic oil export port Primorsk), allowing large tankers all-year round, which ensures worldwide economically viable exports. However, Russian authorities, in particular Transneft, opposed and blocked this economically promising private project, claiming that all pipelines in Russia must belong to the state (Milov, 2005).

Another similarly economic project proposal was in the Russian Far East. The Russian resources situated in East Siberia are closer to Far East than Europe.

Map: Far East Pipelines

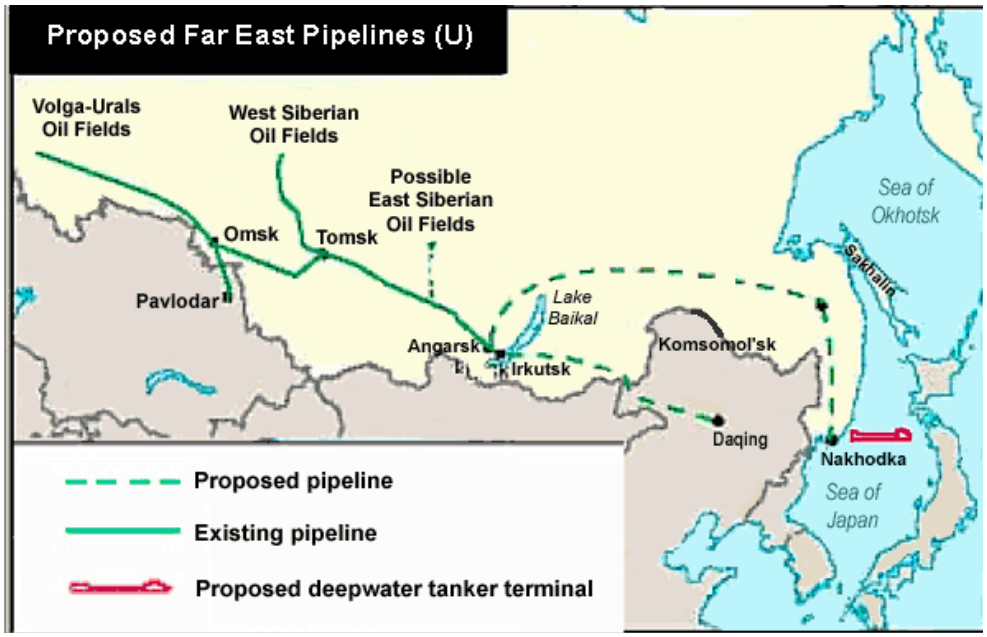


Figure 24. *Map of proposed Far East pipeline.* (International Energy Agency, 2004).

Both China and Japan had negotiated with Russia on the prospects of imports from these massive fields. China proposed the construction of a pipeline from Angarsk on the edge of Lake Baikal to its refining facility in Daqing, which is serving the industrial regions of North East China. Japan, as an alternative, proposed a pipeline stretching from the Baikal region across Eastern Siberia to an export terminal at the Russian province of Nakhodka on the Pacific Coast. Both China and Japan were willing to finance their preferred pipeline options (Hill, 2004).

The Russian energy establishment wanted to avoid the Chinese proposal as it would give China the status of a monopoly consumer. A route to the Pacific was more palatable for Russia as it would serve Japan and other markets at the same time. Yet,

Yukos favored a pipeline to China and openly started negotiations with the Chinese government for the construction of the pipeline from Angarsk to Daqing (Blagov, 2005).

Although both proposals already were a direct challenge to the Transneft, Khodorkovsky announced that he was prepared to build his own pipelines, if required (Helmer, 2005). Putin interpreted Khodorovsky's move to construct private pipelines as a direct interference in the foreign policy. Also such a move effectively broke the monopoly of the state dominated export pipeline system, for gas as well as oil ("Rossiia otkroet," 2006).

Then Khodorkovsky announced a pending merger between Yukos and Sibneft and began to negotiate with both ExxonMobil and Chevron-Texaco to sell a substantial share of Yukos (Susan, White & Raghavan, 2003). After this point, Kremlin grew truly alarmed in fear of loosing one of Russia's most strategic and valuable energy companies to a giant Western corporation. It was one thing for the foreign companies to be minority investors, but quite another for them to buy operational control, especially when some of their payments to the oligarchs were being diverted abroad (Black, 2003).

Also Putin foresaw that the merger of Sibneft and Yukos as well as the sale of 45% of Yukos shares to ExxonMobil was disturbing his plans for a heightened role for the state in the oil sector. If the sale went through, the emerging oil giant was to have a strong stake in the future shape of the Russian oil industry (Arvelund, 2003).

Still, it seems that it was less Khodorkovsky's financial deals than his interference in political matters that pushed Putin into action. Khodorkovsky was reported to have offered Russia's two liberal parties, Yabloko and SPS (the Party of

Right Forces), $100 million to unite and campaign together in opposition to Putin and his United Russia Party in 2003 parliamentary elections. And he broadly hinted that he would run for presidency in 2008, when Putin's term is due to expire (Goldman, 2004).

In the spring of 2004, the Russian Ministry of Taxation (MNS) officials presented a tax audit report of Menatep for 2000 in which they identified the amount of unpaid taxes at more than 99 billion rubles ($3.4 billion). In July 2004, MNS brought new tax claims against Yukos for 2001 amounting to 90 billion rubles ($3 billion). Then in September same year, MNS demanded that Yukos repay tax arrears for 2002 amounting to 79.5 billion rubles ($2.65 billion). In November, the situation for Yukos got worse as MNS claimed additional taxes of 193 billion rubles ($ 6.4 billion) for 2002, while Yuganskneftegaz was presented with claims for non-payment of taxes for 2001 and 2002 amounting to 67.5 billion ($ 2.25 billion) and 29.6 billion rubles ($ 1 billion) respectively (Butrin, 2004). All in all, the claims against Yukos reached to a level of $ 19 billion in 2003.

In July 2004, the court marshals announced that to be able to off-set the tax arrears from the company they were preparing to sell Yukos' key production unit, Yuganskneftegaz, which produced 62 percent of total output. In 2004, Yuganskneftegaz, was sold off for $ 9.4 billion, a price that was lower than its value as estimated by experts. Through an opaque financial transaction, the unit ended up in the hands of state-owned Rosneft, which was the country's second-largest oil company. With the acquisition of Yuganskneftegaz, Rosneft's production leapt from about one million barrel per day of oil to more than 1.5 million (Tompson, 2005).

In taking forceful action against Yukos, Putin was merely employing the only really effective tool at his disposal: a state characterised by weak regulatory and rule enforcement capabilities but enjoying a capacity for 'managing' the democracy (Grace, 2005).

This suggests that the roots of the problem lie, in the final analysis, in Russia's institutional weaknesses. Weak institutions prompt rulers to opt for pragmatic, if sub-optimal, solutions. In Yukos case the state depended on direct control and coercion rather than contract, regulation, and taxation. It became apparent that Russia still lacks basic institutions and framework conditions for the market economy.

After Yukos affair, restoration of the state control over energy industries, instead of the deregulation agenda, became the heart of new policy agenda. The net result of these sector related developments was deterioration in the Russian business climate.

5.6.3. Taking Back Gazprom

Under Yeltsin, following the privatisations, the state owned 38.37 percent of the Gazprom stock. While this made the state the largest stockholder, it did not give a controlling stake. Gazprom remained more or less autonomous, widely referred as a state within the state. Rem Vyakhirev, CEO of Gazprom (1993-2001), kept the company immune from public scrutiny. The government seats at the Gazprom board were not functional or influential to have any say on the course of developments. Gazprom not only failed to pay much in the way of dividends to its owners (including the state) but also paid little if any of the taxes it owed (Goldman, 2007). Even in the official reports

of the Russian Ministry of Taxation, Gazprom was mentioned as the major responsible for the tax deficit ("MNS sorvalo pravitel'stvennoe zadanie," 2002).

Privatisation of the gas sector effectively prevented the state from maintaining an effective control. Successive attempts at asserting the government's control over Gazprom's internal operations, increasing tax revenues, and imposing open access to the domestic gas pipeline system were countered by the Gazprom management. Yet, Gazprom's dominant market position did not stop the Russian government from regulating the wholesale and retail gas prices (Stulberg, 2007).

Under Vyakhirev's management, Gazprom was accused of many irregularities. Among them were selling gas at below-market prices to favored companies, diluting its stakes in valuable subsidiaries, and transfer pricing schemes. For instance, one outfit, called Itera, bought gas from Gazprom and Turkmenistan, resold it on the market to Ukraine and other former Soviet states and acted as a sort of guarantor that Gazprom would be paid by indebted former Soviet states. Hermitage, a Western shareholder in Gazprom, estimated that over a seven-year period, beginning in 1996, Gazprom gave away half the revenue from gas markets in those former states to Itera, at a loss of $7 billion ("Gassing away at Gazprom," 2000).

Gazprom's domestic operations were a loss since the collapse of the Soviet Union. The largest domestic consumers were charged around 3% of the export price. It was able to collect only 40% of the domestic sales in cash. Bulk of the profits of the company was from delivering lower volumes of exports to hard currency markets, in particular Europe.

Putin was aware of the situation in Gazprom. He was particularly concerned about the huge sums disappearing in company's accounts as well as the unexploited potential. He was also acutely aware that without maintaining an effective control in the Gazprom, it was impossible to realise his strategy for the energy sector. With these on his mind he did not take any action but patiently waited for the expiry of Gazprom's contract with Vyakhirev in May 2001 (Belton & Starobin, 2000).

On the May 30, Putin paid a visit to Gazprom headquarters just before the voting to elect the new CEO had taken place. It was a short and concise meeting of around six minutes in which Putin told the Gazprom board that he was instructing the five government-nominated directors to vote for Alexei Miller, a junior energy minister from St Petersburg. He suggested that the other six board members followed suit. In view of Putin's presidential performance in defeating opponents in the last 12 months, the board members did as they were advised. Alexei Miller became the new boss of the world's most important gas company ("Gasprom boss fired," 2001).

Miller, who had worked with Putin in the St. Petersburg mayor's office, served as a port director, run a small pipeline company and was serving as the deputy energy minister. Miller's appointment was a management take over which brought Gazprom under state control with direct links to Putin. It was a change to make Gazprom an instrument of government policy (Tavernise, 2001b).

It took Aleksei Miller a few years to establish an effective control over the company. He purged senior management of his predecessor Rem Vyakhirev's associates. He changed almost all of the high and medium management. Very much in

similar fashion with Putin, Miller's new appointments was people whom he trusted from his previous experience. Although the state was dominating the Gazprom management decisions, Miller was at the mercy of his board when it came to strategic investment decisions (Tavernise, 2001a).

In September 2004, the Gazprom board announced that Gazprom was planning to merge assets with Rosneft, providing the Russian government a majority stake in the new gas and oil and gas mega-giant. By gaining a majority stake in Gazprom and adding state oil firm Rosneft along with prime Yukos subsidiary Yuganskneftegaz, the Russian state was intending to create the largest energy company in the world. These acquisitions would have allowed it to project influence not only within Russia, but far beyond Russia's borders.

However, the attempts at the merger were abandoned in May 2005. According to some analysts, this was due to the disagreement between the two power bases in Kremlin which are operating via the Gazprom and the Rosneft. The Rosneft headed by Sergei Bogdanchikov and Igor Sechin could not come to terms with the fact that their power base was to be swallowed by Gazprom that was run by Alexei Miller and Dmitry Medvedev. The official reason for the break of the merger was stated as the on-going legal uncertainty over the take-over of Yuganskneftegas by Rosneftegas from Yukos (Bush, 2005).

Gazprom merger with Rosneft did not proceed. Instead a special state owned holding company, Rosneftegas, was established which owned 100 percent of Rosneft as its main asset. The holding company sold debt in the financial markets and used that

money to buy the Gazprom treasury shares for cash. The holding company then sold a percentage of Rosneft through an initial public offering and used the money to pay down the initial debt. Finally, the holding company, fully owned by the state, held 10.7 percent of Gazprom as well as the remaining piece of Rosneft. In this way, the state became the direct owner of a controlling stake in Gazprom and a controlling stake in Rosneft ("Russian Government Prepares," 2005).

In 2005, the Russian government increased its former minority stake to a controlling 51%, and Deputy Prime Minister Dmitri Medvedev, a top Kremlin aide and potential Putin successor, was appointed as the company's chairman. It remained unclear whether the Russian government has completely abandoned its plan to create a national energy company - a mega corporation to be overseen by the Kremlin.

5.6.4. Rosneft – An Emerging Oil Giant

As explained in the previous chapter, Rosneft was established in 1993 as a unitary enterprise on the basis of assets previously held by Rosneftegaz, the successor to the Soviet Union's Ministry of Oil and Gas. During the early 1990s almost all Russian local oil companies and refineries were extracted from Rosneft to form ten integrated companies (later their number was halved as a result of acquisitions). In late 1995, with the decree no. 971, Rosneft was transformed into an open joint stock company. In October 1998, the Sergey Bogdanchikov was appointed as the president of the company. The company had only two obsolete refineries and several low-productive and poorly managed oil-producing assets. The government attempted to privatise the company

several times but due to the 1998 crisis the most important try had to be postponed "Pravitel'stvo ne rasstanetsia," 1998).

In December 2004, Rosneft acquired Yuganskneftegaz in a controversial auction that was organised by the government. Yuganskneftegaz was the subsidiary of Yukos which drove the company's exceptional rise in the late 1990s. Its operations are concentrated on the south bank of Ob River. Organised as a production association during Soviet times, it fell from grace after production halved in its first generation anchor field, Mamontovskoye. Yukos introduced most of the modern drilling techniques to recover the production in Yuganskneftegaz. The subsidiary rose to importance on the shoulders of another oil field, Priobskoye. After its low of 526,000 b/d in 1997, the Yugansneftegas' production raised to 995,000 b/d in 2003, just before the prosecutors started their financial audit. It was the largest field in Russia in terms of production (Grace, 2005).

The take over of Russia's most promising fields by Rosneft catapulted what has been a small state company into a global player, controlling some 20% of Russia's oil production. It also complicated plans by Gazprom to merge with Rosneft as after the auction, Yukos shareholders threatened to sue Rosneft and anyone who helped it pay for Yuganskneftegas ("Russia's Rosneft aiming," 2007).

The addition of Yuganskneftegas made Rosneft Russia's second-largest producer of oil by 2005, with an average output of 1.69 million bpd. Rosneft then pursued a very aggressive policy aimed at boosting its clout in Eastern Siberia. In November 2005, Rosneft acquired a 25.94% share in Verkhnechonskneftegaz for $80 million. The

company had estimated reserves of 200 million tons of crude and nearly 100 billion cubic meters of gas. In addition, in December 2005, Rosneft paid $260 million for a license to develop the East Sugdin oil and gas field, with reserves of around 200 million tons of oil and more than 40 billion cubic meters of gas. This aggressive expansion was desperately in need of finances (Blagov, 2008).

In July 2006, Rosneft conducted one of the largest initial public offerings (IPO) in financial history. It placed nearly 15% of its shares on the Moscow and London Stock Exchange. The offering raised $10.7 billion for the company mainly through bi-lateral deals with strategic investors like BP, CNPC and Petronas. Rosneft. Rosneft shares were priced at $7.55 valuing the company at $79.8 billion. In the London IPO three oligarchs, Roman Abramovich, Vladimir Lisin and Oleg Deripaska, also invested over $1 billion each. Yukos objected the IPO and protested at the British Financial Services Authority claiming that allowing the Rosneft IPO was tantamount to facilitating the sale of stolen goods (Sultan, 2006).

In May 2007, Rosneft placed a winning $6.8 billion bid at an auction for the Siberian assets of Yukos, including Tomskneft, the East Siberian Oil and Gas Company (VSNK), and other units. Most of these assets are based in Eastern Siberia. Then, in June 2007, Rosneft in another sell out paid $731 million to take over Yukos' transportation assets. These last acquisitions allowed Rosneft to overtake privately owned Lukoil in terms of oil production capacity and become Russia's largest oil company. Rosneft's official target became extracting 140 million tonnes of oil by 2012 and to become a global top three energy company ("Russia: Rosneft Debuts," 2006).

Starting with Putin's presidency the role of oil and gas sources in the Russian policy construction increased to a considerable extent. The two major reasons behind were the change in leadership's agenda and the increasing profile of energy resources globally. Putin believed in strong state and perceived the oil and gas resources as the primary driver of Russian strength. Supported by Putin, by the governing elite in Kremlin recuperated the strategic ranks in the energy sector. The oligarchs were suppressed. The key assets of the industry were nationalised. The lobby around the oil and gas sector became the most influential force in deciding the successor to Putin. All these point to one fact: the oil and gas sector has become the agenda setter internally and one of the priority topics of Russia's foreign policy.

Since the Yeltsin era, there have been fundamental structural changes in the oil and gas sector in Russia. The prevailing chaos left its place to a clear regulatory framework backed by Putin's authoritarian modus operandi. Since Putin's inauguration, state control over the oil and gas sector has been gradually restored. Wealth and power are transferred not only the state but also to a new circle called 'siloviki'. Putin appointed his most loyal personnel to commanding heights of the state controlled energyg corporations. By this way, at the end of Putin's tenure, the Kremlin established strong formal and informal ties to nearly all of the major energy companies, Gazprom, Sibneft, Rosneft, Surgutneftegaz, Zarubezhneft, ROA UES and Lukoil. Only a few companies such as TNK-BP and what is left of Yukos remained at an arms length. It is visible that dominating power has shifted to Gazprom and Rosneft under the sponsorship of the Kremlin. (Larsson, 2006)

The state and company agendas increasingly converged in assuming Russian business interests both at home and abroad. The only concern for future remains that the tide towards state control may lead to inefficient market structures and a flee of investors from Russia in fear of losing money.

CHAPTER 6

CONCLUSION:
AN ASSESSMENT OF PAST AND THE PROSPECTS OF THE RUSSIAN OIL AND GAS SECTOR

This dissertation has analyzed the development of the oil and gas sector in Russia with a view to understanding the role of these assets in the formation of Russian state interests and consequent policy prioritization. Since their beginning in the Russian Empire, oil and later on gas resources have been important aspects of Russian economic and political development.

Energy policy has been central to critical moments in the country's history. The oil fields of Baku served as the battleground for domestic strife in 1905. Oil prices soared during World War I, and the Bolsheviks eventually harnessed Russia's energy

resources to economically bolster their revolutionary agenda. In World War II, the country's oil fields were critical frontlines in the clash between Nazi Germany and the USSR. While the production of gas and oil in Baku, the Volga-Ural region the West Siberia regions had long bolstered the Soviet economy, the slowdown in production and decreasing prices precipitated the country's decline and eventual dissolution. The same situation caused socio-economic collapse during the Yeltsin period which was reversed almost over-night with surging international oil and gas prices.

The study has also identified economic and political issues on which the influence of the oil and gas resources has been significant. Oil and gas have been a convenient source of hard currency for the Russian economy. They have helped Russia to produce surplus capital to be invested elsewhere. That specifically meant that the Soviet Union had a disproportionate international influence compared to what its planned economy could have created. Except the Empire period when grain and timber were the major export products, revenues from sale of oil and gas reserves provided the backbone to Russia's economy. These revenues provided enough revenue for the state to seek otherwise-unattainable economic and political goals.

The region's vast energy resources, in no small part, allowed for the rapid rise of the Soviet Union in the early 20th century, provided enormous stimulus to the economy in subsequent years and subsidized the country's domestic and foreign policy agendas for decades. It helped the Soviet Union to play a global role and create strategic dependencies all over the world. The Soviet economy, particularly towards the end of 1970s came to depend heavily on oil and gas exports. However, as it did with many

other issues, the Soviet planning system could not maintain a rational framework for the sector's development. The production of oil and gas became an end in itself, losing its ties with any economic rationality. Energy, even then owing much to German *Ostpolitik* and Mannesmann-built pipelines, in effect kept the system going, and when oil prices fell in the early and middle Eighties, it collapsed.

The dissertation has also elaborated on the various links between Russian economic development and revenues from the oil and gas sector and the connections between Russian foreign policy and the oil and gas sector. Oil and gas production rates, high energy prices and strong revenue flow embolden Russia in its international engagements. Low prices and low production rates create strains in the Russian economic and political arena. This correlation can be observed in the Soviet Union's invasion of Afghanistan at the end of 1970s and its eventual collapse in early 1990s. The 1990s was a decade of turmoil for the Russian Federation during which it had to accept loss of political influence in Eastern Europe, CIS and the Caucasus. The recent uptide in oil and gas prices brought Russia a renewed economic weight and political influence in the very same regions.

Though hydrocarbon policy often critically affected the Soviet Union's foreign policy, it never constituted a foreign policy agenda in itself, perhaps explaining, in part, why analysis of these issues is often overlooked in studies of Russia's foreign policy history. Preferential price schemes and subsidised deliveries were common strategies for managing political control, mitigating instability and maintaining the cohesion of the Soviet bloc during the Cold War. Following the collapse of the Soviet Union, oil and gas

diplomacy coloured Russian attempts to revitalize influence throughout the territory of the former Soviet Union. Today the policy around these vital resources has become a primary driver of Russian domestic and foreign agenda.

Moreover, in the changing international system oil and gas diplomacy has become the least cost and most effective way of exerting Russian influence. In the post Cold War international relations, strategic manipulation, communication, persuasion and economic incentives became as important as military might or an outright threat in order to shape the outcome of international issues. The liberalization of national economies increased the number of actors and international organizations: in other words the post Cold War is more conducive to the efficacy of these means (Nye, 2005).

Due to a variety of factors, the Russian oil industry has historically suffered from insufficient infrastructure and a lack of investment. This came in part from the Bolsheviks' own understanding as to how foreign investors had managed things: as so many of the long-lasting commentators on Communism, beginning with George Orwell, have noticed, it became a parody of 'capitalism'. Gigantomania, demoralization of the work-force, 'short-termism' as regards investment, and dis- or misinformation reigned. As Vladimir Bukovsky says (1995) the economy 'only grew by extending itself, consuming ever more of its resources. It was quite incapable of deepening the use of these resources. Thus in the 1960's labour began to run short, as did arable land in the 1970's, and fuel, energy and petrol in the 1980's, although they were all in nature abundant. The system turned out to be incapable even of pillaging its own natural reserves' (Bukovzky, 1995, p. 466).

What has been the legacy of all those Five Year Plans? Despite poor long-term planning, Russia has often turned to the oil and gas industry as an effective means to bolster state power. The Soviets used the country's abundant resources as a means to promote internal cohesion among regions as well as subsidize Eastern Europe in order to further Soviet geopolitical goals. The post-Soviet government has also turned to the oil and gas sector as a source of political strength. Russia's hydrocarbon resources have served as the basis for its economic recovery, facilitated the country's cultural renaissance and allowed Russia to reassert international political power.

There was an extraordinary moment when 'oligarchs' seized control of this fabulous set of tools, and when Moscow's rulers slavishly followed western precepts, expecting, rather in the manner of Dostoyevsky's Kirillov (in *Demons*) that 'The kingdom of heaven is at hand'; 'Oh, when?' 'In June'. The present thesis has examined the legacy of these years and the manner in which post-Soviet regimes have dealt with it – hectic privatization (of a sort) in the initial period, and re-nationalization (of a sort) in the later one, associated with Vladimir Putin. Foreign investment in both periods has been considerable, and even vast; it has created its own strains.

There was a period of near-anarchy, but the foreign investors did return in considerable force, and this led to modernization of a serious order. However, an old Russian problem then came up, that oligarchs and foreign investors ran out of control, and had to be brought under the state control all over again, by political methods. Yukos, Gazprom and Rosneft symbolize what has happened: is Russia now repeating, in less crude form, the blunderings of the old Five Year Plan days?

The straight reply would be: 'No'. The study showed that the development of oil and gas sector went through different stages since its beginnings under the Russian Empire. And the state (in whatever iteration, whether monarchical, communist or post-Soviet) has always played an important role in the development of energy resources. The private and foreign initiative has been equally important for the sector. Although the degree of presence changed over time, minimal during the Soviet times, there was a constant dependence on the imported technology, foreign capital and foreign field equipment. Moreover, under any regulatory framework, the state has been the dominant actor in directing and guiding the vision of development for the oil and gas sector. So, the Yeltsin years would be an exception to the rule rather than vice versa.

One thing is clear: energy is now politics. This does not necessarily involve blackmail, as Ukrainians loudly claimed when they did not pay their bills and had their supplies cut off. It is not in Russia's interest to impoverish its own clients. Historically, conservation, the balance of energy sources and providing capital for investment in energy production have been major topics in the development of Russia's energy policy. These issues will continue to grow in importance in the future as Russia continues to assert its influence in a globalized world. Further, the current Russian government has recognized the historical efficacy of leveraging their energy resources as a means to affect foreign policy. Russia's prominence relies on its ability to continue using its resources to assert its economic and political will, both domestically and internationally.

Undoubtedly, future political leaders in Russia will continue to conflate energy policy with foreign policy to the country's benefit. Undoubtedly, oil and gas will

continue to play an important role in Russia's political development. Not only does revenue from the energy sector sustain Russia's economic growth, which affects the country's political outlook, but also now the energy lobby plays an instrumental role in influencing presidential succession. Indeed, energy policy will also affect a majority of Russia's foreign dealings, from negotiating with its global neighbors to install international pipelines to supplying oil to the developing countries.

Further, however, this study acknowledges recent developments in global politics and the field of international relations. Following the end of the Cold War, the world entered upon a new, unprecedented era of foreign relations, in which long-held analytical paradigms lost their explanatory power. No longer could scholars explain the international system through the lens of the bi-polar geopolitical struggle between nation states. The dissolution of the Soviet Union not only forced countries around the world to reconceptualize their role in a new globalized international system, but it also redefined basic concepts in international relations. Non-state actors threatened global security and challenged notions of sovereignty. As a result, national borders and the accumulation of arms no longer guarantee security. Further, power can no longer be defined primarily in terms of military might; rather, power in the new international system has dissolved into countless different political, economic, social and, yes, military facets.

In this geopolitical landscape, understanding energy policy is paramount. Instead of explaining Russia's role in the international landscape by citing its military stature or relative economic strength, scholars of international relations should consider the strategic implications of Russia's evolving energy policy.

In this respect, one last perspective should be provided on the prospects of Russian oil and gas development. If Russia's economic and political weight now depends on the magnitude and extent of its oil and gas resources there is another important question to pose: Where would Russia be without the inflow of these revenues? Would it return to the years of collapse if oil prices drop or production rates decline? As oil and gas resources are not infinite, when is Russian oil production expected to peak? Will Russia grow stronger or weaker in the coming years?

From the late 1980s to the end of the1990s Russian oil production fell and natural gas production stagnated. Especially for oil production it seemed that peak level had been reached. During that period Russian oil production as a percent of global oil production decreased to a low of 8.5%. It has since rebounded to 12.7%. The figure below shows Russia's historical place and prospects in the oil production.

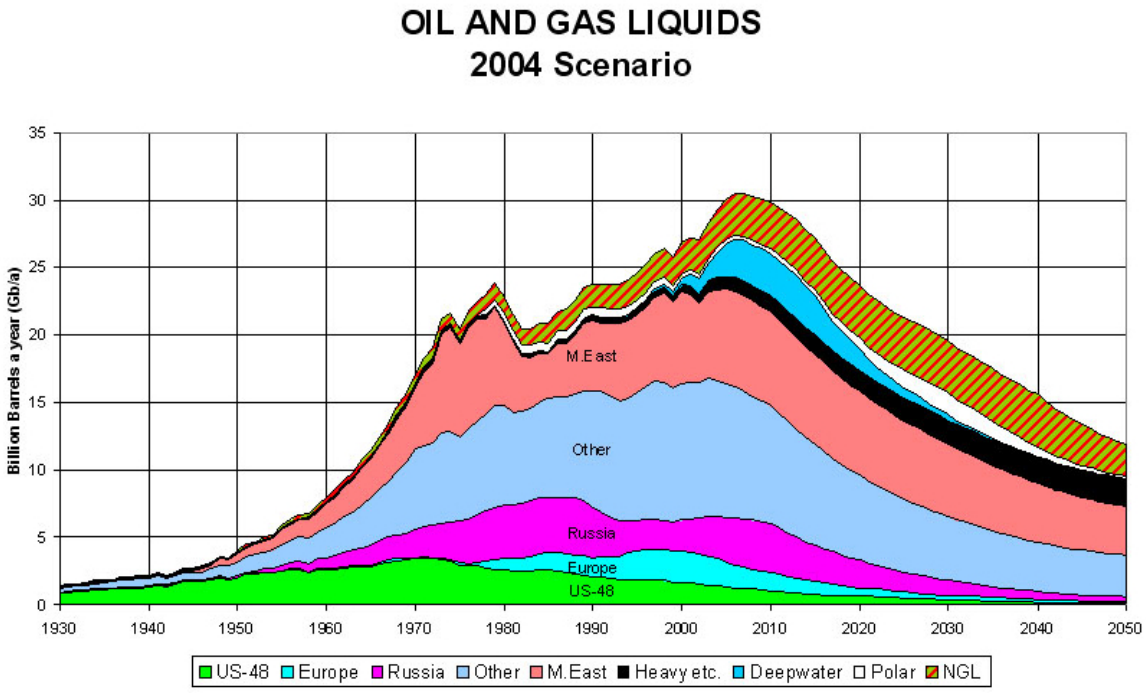


Figure 25: Oil Production Rates and Countries

It is not an easy task to estimate the remaining recoverable reserves of a country, especially with a country like Russia, where reliable data are hard to find. Production rates provide the most reliable data since the oil flow can easily be measured at the production plants. The behaviour of an oil field is difficult to predict and depends very much on the consideration of many different parameters such as the type of source rock, the rock's permeability, field pressure etcetera. Therefore, it is nearly impossible to make an accurate estimation of how much oil is left in the field, how much more can be produced, and how future production will appear. Even with today's most advanced technology it is impossible to know exactly how much an oil field holds. Usually, the original estimates from the field petroleum engineers tend to be exaggerated in order to encourage investments in the field.

In spite of individual differences, most fields will have a rise, peak and decline phase. So by adding many field data together and by applying a model, a country's production pattern can be estimated which will somewhat be similar to the normal distribution curve (Hubbert's Peak) in chapter 1 (figure 1). However, that kind of modelling requires quite some knowledge which differs widely in every single field.

The crux of the matter here is to know the level of oil (which is generally associated with gas) that is left in the Russian production fields. Only then a depletion coefficient rate can be applied in a time horizon which may help predict the date and quantity of the last barrel of oil in Russia. Of course, exports are another side of the

story. Exports from Russia, unless very efficient substitutes of hydrocarbons are discovered, will have to stop at some point in the future. Again forecasting such a date greatly depends on the re-structuring of the Russian domestic oil and gas usage. The dissertation has shown that conservation has become a top priority agenda item for the Russian governments since the late 1970s but progress in this area has been slow and without any significant results. Yet, as resources will grow scarcer and global demand increases, Russia is expected to adjust and optimise its domestic use of oil and gas sources by introducing stricter conservation measures, and using more alternative energy resources as well as renewable energy.

A normal decline rate for a single giant oil field is somewhere around 6-16% A country that consists of many fields of different sizes that are taken into production at different times has a much lower depletion rate.(Robelius, 2007) The figure below shows the example average depletion rates for different regions and countries.

Average Depletion Rates

World	2,60%		
Regions		**Countries**	
Europe	6,7%	Norway	7,2%
N.America	5,0%	UK	6,5%
ME Minor	4,7%	US-48	4,5%
L.America	4,5%	***Russia***	***3,6%***
East	3,9%		
Eurasia	3,0%		
Africa	2,9%		
ME Gulf	1,7%		

Figure 26: Examples of Average Depletion Rates

Note: Mäkivierikko A. 2007. "Russian Oil a Depletion Rate Model estimate of the future Russian oil production and export", Thesis submitted to the Uppsala University.

The depletion rate of an oil field is dependent on the amount of oil that is left. The oil fields deplete at a much faster rate at their inception. The speed of depletion is in fact limited with the physical ability to extract resources. Gradually the depletion rate slows down. The table below shows the actual depletion status in the Russian major oil fields. The table can give the reader an idea that the depletion rate in Russia has already slowed down. However, with the discovery of new fields in Eastern Siberia and the Arctic off-shore, the speed of depletion may incresae again, though the decline in Russian overall supply of oil will shift further in time.

Depletion at Russia's Largest Producing Oil Fields				
Field	Production		Online Date	Depletion*
	2005	2006		
Samotlor	868	844	1964	73%
Fedorovo-Surgutskoye	482	433	1973	70%
Priobskoye	466	552	1989	14%
Romashkinskoye (Tatarstan/Samara)	300	301	1949	85%
Tevlinsko-Russkinskoye	247	223	1986	49%
Ust-Balyk-Mamontovskoye	241	242	1964	85%
Tyanskoye	214	246	1995	31%
Pokachevsko-Uryevskoye	190	178	1977	63%
Sugmutskoye	190	186	1995	67%
Vatyeganskoye	164	167	1984	37%
Malo-Balykskoye	156	165	1984	41%
Krasnoleninskoye	123	139	1985	13%
Povkhovskoye	116	122	1978	99%
Pravdinsko-Salymskoye	114	124	1968	29%
* Depletion is defined as Cumulative Production/Recoverable Oil Reserves (P+P)				

Figure 27: Depletion at Russia's Largest Oil Production Fields

Note: The table is taken from the IEA Web Site available on the: www.iea.doe.gov.tr accessed on 12.07.2008

A graphical representation of the Russian producing regions is provided below.

Figure 28

Graphical Representation of Production in Russian Oil Fields- 1949-2000

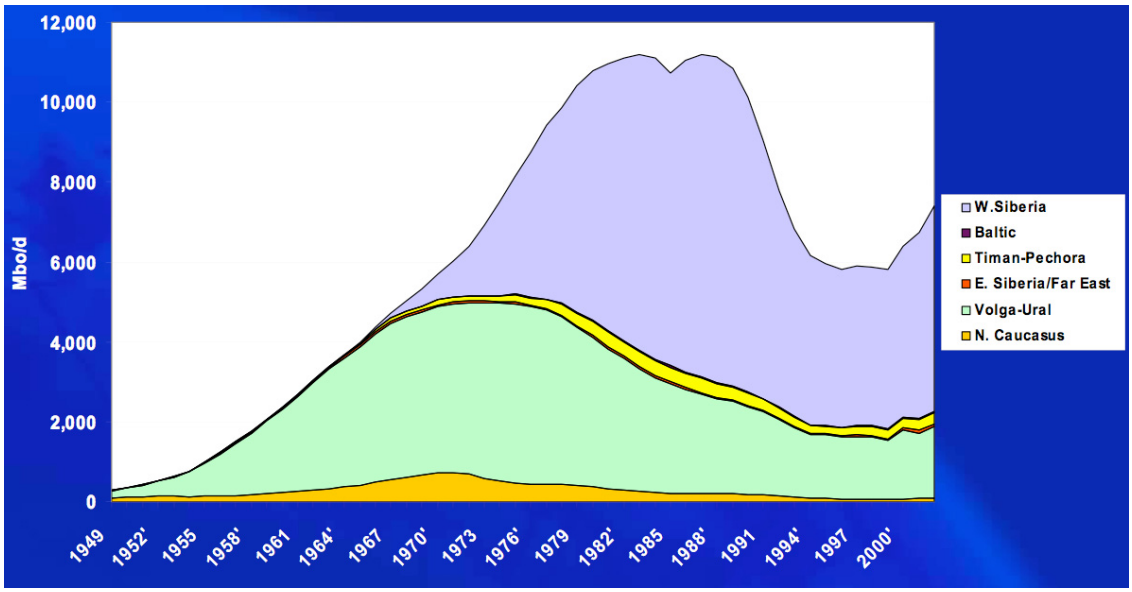


Figure 28: Graphical Representation of Production in Russian Oil Fields

Note: From Theodor F. "Russian Oil – Current Status and Outlook*", IHS Presentation* Available at http://energy.ihs.com/NR/rdonlyres/26C6F43E-29F7-4486-9B39-B9A07C40AB6F/0/felder.pdf

Additions to reserves, a better conservation policy and application of better technology are very likely to maintain oil production levels for a long time in Russia. The crucial question is for how long? Mäkivierikko (2007) contends that depending on the level of oil left in the producing fields Russia is expected to peak between 2006 and 2036. He uses three resource base scenarios, 70-120-170 billion barrels, to apply a

depletion model. These 3 figures are based on common estimations of a wide range of petroleum companies working in Russia.

Accordingly, as can be observed in the figure below, if Russian reserves are around 70 billion barrels then production can peak around 2011 at the latest. If the reserves are 120 billion barrels, then the peak production can be expected around 2016. In case of the most optimistic scenario of 170 billion barrels, the peak will occur in 2020. Existence of 120 billion barrels reserve is the most likely. Although currently Russian proven reserves are given around 70 billion barrels, the new discoveries will certainly add on this potential while the better technology will keep production rates flat, largely non-responsive to the rising demand.

In this case Mäkivierikko's model predicts that Russia's will have to stop its oil exports around 2040 to be able to meet its domestic demand. (Figure 29). However, Russia needs to consider the political implications of supplying more oil to meet global demand if alternatives to oil has not been developed and are economically in use. In other words, it might consider stopping exports earlier than 2040.

Figure 29

The Russian Hubbert Curve

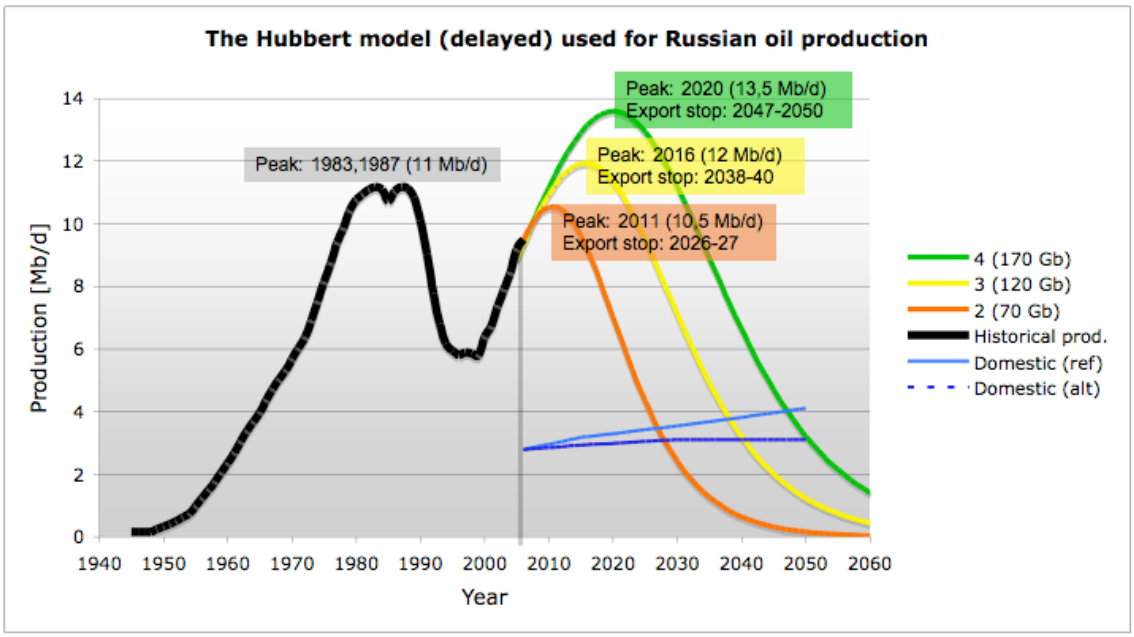


Figure 29: The Russian Hubbert Curve

Note: Mäkivierikko A. 2007. "Russian Oil a Depletion Rate Model estimate of the future Russian oil production and export", PhD Thesis Submitted to the Uppsala University

Still a word of caution would be that only in a region where the regulatory framework is ideal and oil production is only limited only by natural constraints, can the Hubbert curve work accurately. Yet, in an imperfect regulatory framework, where political decisions come into play, the time horizon in results displayed may substantially differ. To give a simple example, most of the Volga-Urals peaked earlier than expected which led to the crash development of Western Siberia. Another good example is the fall of the Soviet Union, which had severe consequences for the oil and gas industry. The peak oil production suddenly made an accelerated downturn.

When it comes to natural gas, Russian prospects are more promising. Russian problems on the gas front are more related to the investment needs required than to the recoverable reserves. The substitution of oil by natural gas is a continuing process. The dissertation has already discussed the rising share of natural gas in the energy balance of various countries. Natural gas cannot replace oil in many areas but in energy generation certainly it is one of the best substitutes.

The figure below compiles the data taken from the Energy Strategy of Russia 2003 and shows the expected volume of Russian natural gas production. Total Russian production will increase from the current level of annual 580 billion cubic meters to the 680-730 billion cubic meter range in 2020. Most of the marginal supply is expected to come from new fields in East Siberia and their independent producers other than Gazprom. Natural gas exports will rise from its current level of 180 billion cubic meters to around 230 billion cubic meters in 2030. As long as Russia does the required investments, the natural gas will continue to grow in importance.

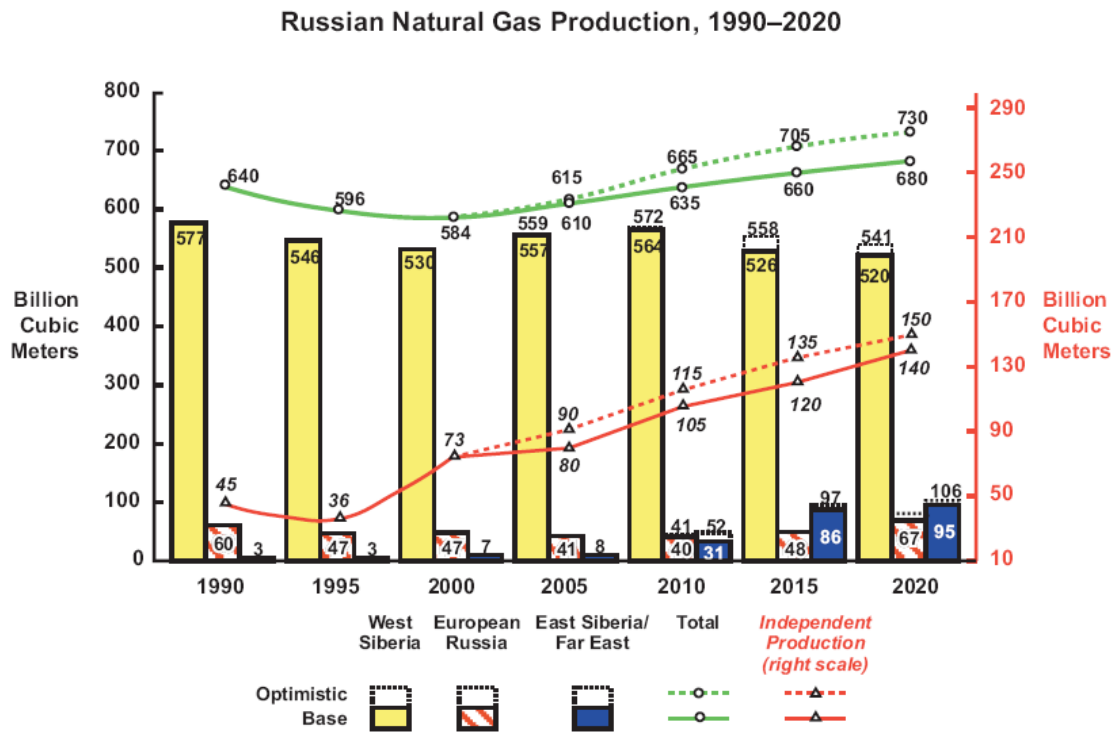


Figure 30: Russian Natural Gas Production

Table Note: Webb J., Vorobyov P., and Yermakov V. "Russia's Energy Strategy to 2020: An Incomplete Road Map", *CERA Decision Brief, October 2003*

The discussion above points to one direction: Russia will certainly grow in its economic and political weight thanks to the availability of its vast oil and gas resources. The world economy is growing every day which means that unless radical conservation measures are taken demand for energy sources will continue to grow in the foreseeable future. The discoveries of new fields and well-completions will not be able to keep up with the rising demand, particularly from East Asia. That may herald more price hikes. There is also another argument that higher prices may trigger a wave of investments which will take on board previously unfeasible fields. When new fields are

commissioned supply will inevitably increase and the prices may drop again. Still, in the long run, this argument needs to consider that the production of hydrocarbons cannot continue infinitely.

The dependence on Russian energy imports will continue to grow in the European Union, the CIS and even among the East Asian nations. The ability of Russia to transform the accruing economic strength in to new spheres of influence will show if Russia is becoming once again a super-power. Russia needs to modernize its military, re-structure its industrial base and upgrade its human resource potential. All these can be achieved in two generations but requires a systematic approach as well as a strengthening of institutionalisation.

Policy around the production and exports of oil and natural gas are becoming Russia's major drivers of strength. This is exactly why Russia's foreign policy is expected to be busier with pipeline politics, strategic aspects of resource development, and prices of supplies. The ownership of oil and gas resources will continue to be a point of contention in domestic politics. It is becoming more obvious that the control of these resources has become equivalent to the control of the state. The interests around oil and gas are powerful in the Kremlin, deciding as to the presidential succession and key positions in the government.

Therefore, understanding the energy dimension of Russia's evolving policy is essential. This also helps in bridging a gap between the field of international relations and domestic politics. Rather than trying to explain Russia's role in international relations by referring to its dealings on a state-state level, scholars of international

relations should consider the strategic implications of Russia's evolving energy policy which has its roots inside Russia. This study aimed to add to this ongoing dialogue.

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